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ABSTRACT

The competence of school-aged, black children in standard English (SE) grammatical forms, specifically, six verb structures that distinguish Black English from SE, is the focus of this study. The subjects were 198 kindergarten, first-grade, and second-grade black children who attend four Title I schools in the New York City metropolitan area. Responses on two oral language tasks (sentence repetition and sentence comprehension) and two reading tasks (oral reading and reading comprehension) were used to study relations between children's receptive and productive control of oral and written SE forms. It was found that children's level of control of SE is grade related and is a function of the particular verb forms. The order of acquisition of receptive and productive control of SE structures differs, and this difference was demonstrated in both oral language and reading behavior. There was little evidence that aural comprehension of specific structures is systematically related to oral production, but reading comprehension is systematically related to oral reading in SE. The results indicated that reading comprehension is more a function of children's receptive control than it is of their productive control of SE. (Author/TS)

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FINAL REPORT

Project No. 3-1169
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A STUDY OF YOUNG BLACK CHILDREN'S RECEPTIVE AND PRODUCTIVE LANGUAGE AND READING COMPETENCE IN STANDARD ENGLISH GRAMMATICAL FORMS

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May 31, 1975

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Abstract

This investigation focused on young, school-age, black children's competence in standard English (SE) grammatical forms, specifically, six verb structures that distinguish black English from SE. Responses on two oral language tasks (sentence repetition and sentence comprehension) and on two reading tasks (oral reading and reading comprehension) were used to study relations between children's receptive and productive control of oral and written SE forms. The subjects were 198 kindergarten, first and second grade black children who attend four Title I schools in the New York City metropolitan area.

Findings show that children's level of control of SE is grade related and is a function of the particular verb forms. The order of acquisition of receptive and productive control of SE structures differs and this difference was demonstrated in both oral language and reading behavior. There was little evidence that aural comprehension of specific structures is systematically related to oral production, but reading comprehension is systematically related to oral reading in SE. There was some evidence that native dialect interferes differently in comprehension and production of specific forms. Finally, results indicate that reading comprehension is more a function of children's receptive control than it is of their productive control of SE.

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New York University

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I

INTRODUCTION

Problem

Both scholarly research and the popular press document the fact that many children who speak black English do not learn to read. There is little consensus about the reasons for such failure although it is often contended that one factor is the difference between the language used by many black children and the text materials used to teach them to read. In the last decade Baratz and Shuy (1969) and others have suggested an additional hurdle in learning to read for the speaker of black English: he must not only decode from a standard English text but also recode into his own language to obtain meaning. It has been suggested, then, that one of the primary causes of reading failure for black children is linguistic interference due to the structural differences between black English (BE) and standard English (SE).[1]

Two popular proposals for facilitating black children's learning to read are: 1) teach them to speak SE before or while teaching them to read in SE; or 2) teach them to read with materials written in the language in which they are already competent, i.e., black English. The assumption underlying both proposals is that many black children fail to learn to read because they are not linguistically competent in SE.

On the other hand, many children who speak BE do learn to read proficiently (Goodman and Burke, 1973). Furthermore, there is evidence that speakers of BE vary widely in their productive control over features of SE and yet it is not known if, or to what extent, productive control of SE features is necessary for success in learning to read.

Moreover, a distinction must be made between productive and receptive control when discussing linguistic competence as a factor in learning to read. There is evidence that black children's receptive control varies for different features of SE and that their receptive and productive

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[1] It must be kept in mind wherever SE and BE are contrasted, that there is more overlap between these two varieties of English than there are differences between them--as is generally true of mutually intelligible dialects. Much of the structure is identical, with a few well-defined patterns of difference.

control may differ for specific features. The effect of differences in receptive and productive control of particular features on reading, particularly reading comprehension of those features, has not been examined. Both receptive and productive dimensions must be studied in order to determine if reading SE is a function of linguistic competence in SE.

Since major structural differences between SE and BE lie in the use of verbs, the present study focused on children's receptive and productive control of particular SE verb forms and the relation of this control to reading these forms during the critical period of the beginning school years.

Conceptual Framework

There exists no fully explicated theory covering the relation between reading performance and competence in a second dialect. There are, however, a number of empirically supported propositions about the relation between receptive and productive language abilities and about the relation between linguistic competence and reading ability that suggest ways to study the relation between competence in a second dialect and learning to read in that second dialect.

Relation Between Receptive and Productive Language Abilities

The rationale for this study derives in part from psycholinguistic theory about the way a child learns to comprehend and produce his native language. Specifically, the analysis-by-synthesis theory of acquisition of native language is applied to the acquisition of a second dialect. Whereas Chomsky (1965) and Lenneberg (1967) propose that human beings have an innate understanding of the possible linguistic structures of their language; and strict behaviorists, such as Skinner (1957) describe language acquisition in terms of a stimulus-response theory; the analysis-by-synthesis theorists (Halle and Stevens, 1964; Wales and Marshall, 1966; Menyuk, 1970) provide a more appropriate model for explaining the phenomena studied here--namely, receptive and expressive control of a second dialect.

Menyuk (1970) explicates a basic premise of the analysis-by-synthesis theory, i.e., "the human organism does not simply have the capacity to learn and to generalize language, but, rather, has the capacity to search for and store in memory abstract structural descriptions which fit his hypotheses about the language" (p. 196),and C. Chomsky (1975) describes the child as the "director of and active participant in his linguistic progress at all levels. He searches his language environment for regularities and builds and revises grammatical rules from what he hears by a process of active construction." 12

The child's acquisition of the grammar of his native language is interpreted, then, as the building of a store of structural descriptions of the language, a process dependent both on the capacities of peripheral auditory and vocal mechanisms of coding and storage. As a child matures, changes occur in both the number and the nature of the structural descriptions he possesses (Menyuk, 1970). The child's subconscious ability to apply the stored structural descriptions in his use of his native language is what the linguists have termed his linguistic competence. The child's actual production of language, whether in spontaneous speech or in structured language tasks, is termed linguistic performance.

Psychologists and others have made it eminently clear that linguistic competence must be studied through behavior that reveals the user's control of the language heard or spoken. Menyuk (1970) provides a model for examining competence in terms of performance based on the analysis-by-synthesis theory. In this model, language competence is described as a process of reconstruction where utterances heard are understood by regenerating either partially or completely the stored phonological, syntactic and semantic rules used to derive the utterance (Menyuk, 1970, p. 198). A child not fully competent in the grammar underlying the utterance he hears is liable to misunderstand it, either partially or completely. The same concept of reconstruction applies to production of language where a child's utterances will either be completely or partly grammatical depending upon the child's ability to regenerate those linguistic structures required to communicate his meaning fully. The young child's "telegraphic" or grammatically incomplete sentences (Brown and Fraser, 1963; Brown and Bellugi, 1964) are an indication of his approximation of adult linguistic competence before achievement of adult linguistic performance. The child's language production does indicate understanding of the complete utterance but also indicates his inability to produce a complete "standard" sentence.

By examining the linguistic structures produced and comprehended in a variety of carefully devised language situations, it is possible to make inferences about a speaker's competence in a language. In studying children's acquisition of their native language, sentence repetition (imitative) tasks and structured comprehension tasks have been used successfully to study children's control of grammatical (morphological and/or syntactic) forms (Berko, 1958; Fraser, Bellugi, and Brown, 1963; C. Chomsky, 1969; Slobin, 1967).

The underlying assumption of a sentence repetition task is that repetition of a sentence is not merely imitation but rather a re-creation of the sentence after it has been processed through the child's structural and/or meaning systems. To reproduce a sentence, a child must have competence in the particular grammatical structures being elicited. Thus, it has been proposed that comprehension also can be inferred from a child's responses on a sentence repetition task (See Troike, 1970).

On the other hand, there is disagreement in the field about the adequacy of a sentence repetition task as a measure of comprehension (Baratz, 1971; Ervin-Tripp, 1971). A more appropriate technique involves a task in which the child is asked to indicate his comprehension of grammatical structures through some overt non-linguistic behavior such as pointing to an appropriate picture or moving an object as directed. It is assumed in such tasks that a child's lack of comprehension will be revealed through his behavior.

Application of the analysis-by-synthesis theory of native language acquisition to second dialect acquisition is supported by Ervin-Tripp (1970), Menyuk (1970), and Troike (1970). In the present study, it was proposed that the basic premises of the analysis-by-synthesis theory of the acquisition of native language can be applied in describing second dialect learning, and furthermore, that the methods used for studying the acquisition of linguistic competence in a native language can be applied in studying black children's acquisition of grammatical competence in SE as a second dialect.

Second dialect learning is a complex process not fully explicated at this time but it can be assumed that through exposure to SE, the black child increasingly stores certain descriptions about the phonological, syntactic and semantic structures in SE which he then uses in processing language for comprehension or for production of utterances in the second dialect. Comprehension and production of SE, then, depend upon the child's ability to use his knowledge of the grammar of that dialect--that is, his competence in SE.

A review of the work in the field reveals that there is little agreement, however, on the extent to which BE-speaking children are competent in SE. Nor is there agreement on the extent to which productive and receptive control of SE are interdependent for the black child.

Although use of SE forms is generally less frequent when spontaneous--rather than imitative--elicitation techniques are employed to study performance in SE, both kinds of measures indicate that BE-speaking children can and do produce SE structures, and that this ability increases with age (Henrie, 1969; Stern and Gupta, 1970; Nurss and Day, 1971; DeStefano, 1972; Berdan, 1973; Cullinan, Jaggar and Strickland, 1974). Both types of elicitation techniques also show that black children have more control over some SE forms than others (Henrie, 1969; Hall, Turner and Russell, 1973) and, in addition, that control of SE varies within individuals; i.e., children who use SE may not use SE forms consistentiy (Ervin-Tripp, 1972).

Labov (1972) has stated that the social situation is the strongest determiner of the quantity of speech and of the formality-informality range of speech elicited. This is supported by DeStefano's study (1972) showing that two-thirds of all responses made by BE-speaking children in a formal testing situation are in the "language instruction register" (SE). Further, the children in her sample increased in ability to control SE forms from first to fifth grade, giving credence to the proposition expressed earlier that increased exposure to SE results in increased productive control of SE.

Although BE-speaking children can produce SE forms, performance on sentence repetition tasks also clearly demonstrates a systematic pattern of recoding of SE sentences into equivalents in the child's native dialect, preserving the meaning of the stimulus sentences (Labov and Cohen, 1967; Garvey and MacFarlane, 1968; Osser, et. al., 1968; Baratz, 1969; Troike, 1970; Cullinan, Jaggar and Strickland, 1974).

Although black children's performance in SE varies, their "translations" in sentence repetition tasks indicate both that their language has different rules of grammar and that they have considerable receptive competence in SE. On this ground, many researchers accept the premise that black children are bidialectal receptively. Some empirical evidence to support the assumption of bidialectal receptivity derives from studies involving a variety of techniques to measure comprehension, which show that black children understand SE as well as they understand BE (Weener, 1969; Frentz, 1971; Quay, 1971, 1972; Levy, 1972; Ramsey, 1972). Other studies show that BE-speaking children comprehend SE as well as SE-speaking children do (W. Hall, 1973; Hall, Turner and Russell, 1973; Mathewson, 1974; Hall and Turner, 1974).[1]

In studies that have examined both receptive and productive control of SE among native language speakers, it has been found, with some exceptions (Fraser, Bellugi and Brown, 1963), that receptive competence

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[1] Some studies comparing middle-class white children to lower-class black children (Osser, et. al., 1968; Williams and Wood, 1970; Frentz, 1971) have shown that white children are superior to black children in comprehension of SE, but the results of such studies are confounded by the effects of social class. When social class was controlled, as in Hall, Turner and Russell's 1973 study, no significant differences were found due to race, but significant differences were associated with social class.

generally precedes productive control. The empirical data on the relation between receptive competence and productive control of SE among BE-speaking children is limited. However, there is some evidence that, as in native language learning, receptive competence in the second dialect (SE) precedes productive control (Osser, et. al., 1968). Such evidence, however, is usually based on total task performance, e.g., a total sentence repetition task score compared to a total picture-selection comprehension task score.

But the relation between receptive and productive control may not be the same for different SE forms. Some studies show that when black children's receptive competence on specific SE grammatical features is compared directly to their productive performance on the same features, they have better production than comprehension for certain SE features, yet have higher comprehension than production for others (Osser, et. al., 1968; Torrey, 1969; Hall and Turner, 1971; Nurss and Day, 1971).

The various studies provide data that are not closely comparable, and reveal little agreement about the extent to which black children control SE, either receptively or productively. There remains the unresolved question of the degree of interdependence between receptive and productive control of specific SE structures. Further, there is the question of how dialect interferes in production and comprehension of specific features of a second dialect. Interference from native dialect may operate differently in production and comprehension of specific SE forms.

To study these questions, the present investigation focused on the black child's linguistic competence in selected SE grammatical forms, by studying language behavior in carefully devised sentence repetition and comprehension tasks. The purpose was to determine:

1) if the order of control of the SE forms is the same for comprehension and production,

2) the extent to which comprehension and production are a function of the particular SE grammatical features,

3) the extent to which comprehension and production are a function of age or grade level of the child,

4) the relation between comprehension and production of specific SE grammatical forms.

Relation Between Language Competence and Reading

Knowledge of the full dimensions of the black child's competence in SE is also crucial in order to understand whether learning to read in SE is a function of linguistic competence in SE. At the present time, the relation between dialect and reading is not clear. A direct examination of the process is needed to determine (1) whether and to what extent non-standard dialect interferes in reading, and (2) to what degree ability to read SE is a function of the ability to orally produce and/or aurally comprehend SE.

The basic premise that competence in a language is needed for learning to read that language is supported by numerous studies that show a strong relation between oral language development and reading achievement (Loban, 1963; Ruddell, 1966). The importance of oral language proficiency to reading has been emphasized by many who describe the psycholinguistic nature of the reading process (Carroll, 1964; Weiner and Cromer, 1967; Ruddell, 1969; Goodman, 1970). In reading, the child uses his knowledge of his spoken language to process the morphological and syntactical components of the written language he has decoded in order to determine the semantic interpretation of the reading material (Carroll, 1964, 1970; Bormuth, 1969; Ruddell, 1969).

Since reading comprehension is dependent upon the child's knowledge of the structure of his oral language, problems in comprehension may arise for any child whose native language structure differs from the structure of the reading material (Weiner and Cromer, 1967). Ruddell (1965) and Tatham (1970) have shown that reading comprehension is higher for materials written in language patterns similar to the child's oral patterns than for material written in less frequently used oral patterns.

These findings provide the base for assumptions that BE-speaking children have difficulty in learning to read because they are not competent in SE. Some studies have shown that among lower class blacks, there is a positive correlation between competence in SE and reading performance (Gross, 1967; Baratz, 1970; Deffenbaugh, 1973). These observations provide some support for the claim that, for the black child, learning to read is a function of his competence in SE; however, correlational data cannot be used to ascribe cause.

Those who support the claim believe that lower-class black children fail to learn to read, not because they are not competent in language per se (Povich and Baratz, 1967), but because they are competent in a language which is structurally different from the standard English of the text used to teach them to read. One proposed solution is to develop the child's control of SE (Bailey, 1970; Venezky, 1970), and particularly his

productive control, so that the differences between his language and the language of the text are diminished. This suggestion assumes that if the child were competent in SE, he would be able to decode, process, and comprehend the written language more efficiently.

Despite these claims, available empirical data are inadequate to explain if, and to what extent, nonstandard dialect interferes in learning to read. Several studies have examined children's errors or miscues when reading SE orally. Many of the reading miscues made by black children are dialect based (Weber, 1973; Hunt, 1974), suggesting that some interference from native dialect does occur in oral reading. Other studies have shown that there is more dialect interference on certain SE features than on others (Ames, Rosen and Olson, 1971; Goodman and Burke, 1973; Hunt, 1974); that no reader is totally consistent in making dialect-based miscues (Goodman and Burke, 1973); that there is considerable variation among black children in the number of dialect-based miscues made (Goodman and Burke, 1973); and that dialect-based miscues decrease with age for some features and not others (Rosen and Ames, 1972).

Thus, the factors (type of structure, age) that affect oral production of SE also influence oral reading of SE. There is evidence, however, that the factors operate differently in the two productive tasks, so that one cannot make accurate predictions about performance in either task on the basis of performance in the other. For example, Goodman, in summarizing some of his research, presents evidence that dialect is more likely to occur in oral retelling of stories than in reading, and that many children who speak BE are proficient readers. He claims that dialect-involved miscues do not interfere with the reading process or with the construction of meaning since the child succeeds in translating written materials to his own language (Goodman with Buck, 1973). Goodman did find that less proficient readers produced more dialect-related miscues than proficient readers but suggests that accuracy is the result of being a proficient reader and <u>not</u> that greater accuracy in reading SE leads to greater proficiency. He concludes that reading proficiency is more dependent upon receptive competence than productive control of SE.

Unfortunately, dialect-based miscues observed in studies of black children's oral reading of SE have been used to support claims that dialect interferes in learning to comprehend written SE. The methodological and conceptual weakness here is obvious: oral reading is not an adequate measure of reading comprehension. If the child produces nonstandard grammatical equivalents of the written text, why then assume that interference in comprehension has taken place? In sentence repetition tasks grammatically equivalent utterances are considered evidence of comprehension, suggesting that structural differences do not necessarily interfere with comprehension. The work of Melmed (1970) and Goodman and Burke (1973) confirms that a child's production of dialect when reading SE texts does not necessarily interfere with his comprehension.

The question of the extent to which dialect interferes with comprehension when lower class black children read SE remains. Several studies have attempted to measure interference in comprehension by presenting BE-speakers with stories written both in SE and BE on the assumption that if oral language differences interfere in reading, then BE-speaking children should have higher comprehension for stories written in BE than for those written in SE. Such studies generally have shown that black children have equivalent or higher comprehension of reading materials written in SE than they do of materials written in BE(Jaggar, 1971; Nolen, 1972; Johnson and Simons, 1973; Mathewson, 1973, 1974).

It should be noted that studies of this kind have a built-in bias, since they must eliminate subjects who do not have reading proficiency, and these are liable to be the very ones for whom the issue is most crucial. Furthermore, those children who are able to read well enough to perform the task were taught to read in SE. No population of children has been taught to read using dialect materials. Mathewson (1974) found that reading dialect materials was an unfavorable experience for black children: they disliked it, found it difficult to decode and more difficult to comprehend than SE. He did find, however, that when listening to stories, black children not only preferred BE, but also comprehended BE better than SE. He suggests that dialect reading material should not be used with children who have already learned to read with SE materials. This does not mean, however, that the same results would be obtained if children had been taught to read with BE materials. Nor can it be concluded that dialect is not related to difficulty in learning to read SE for some children.

The extent to which dialect interferes with reading comprehension of SE texts by BE-speaking children needs further study. The relation between oral reading and reading comprehension needs to be explored for particular SE grammatical features. The major issue involves the relations among receptive and productive control of SE and comprehension of written SE and the way specific grammatical features affect oral language and reading performance. The critical period of the beginning school years, when these factors may interact to affect the child's learning to read, is the time they must be studied.

Objectives

The purpose of this investigation was to examine subjects' performance on language[1] and reading tasks in order to study the relations

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[1] In this report, the term "language tasks" will refer to listening and speaking tasks to distinguish them from oral reading and reading comprehension tasks. Actually, of course, reading tasks are "language" tasks also.

between young black children's receptive and productive control of selected grammatical features of SE, specifically SE verb forms.

Two language tasks, sentence repetition and sentence comprehension, and two reading tasks, oral reading and reading comprehension, were used to determine if the pattern of control of SE verb forms is the same for the various tasks and for each grade. Responses on the sentence repetition and the oral reading tasks were examined to determine the extent and type of structural interference that occurs when a BE-speaking child is asked to orally reproduce SE in speaking and reading. Further, the relation between oral reading in SE and reading comprehension was studied in detail. Finally, the major objective was to determine the extent to which reading comprehension is a function of receptive and productive control of SE.

Specifically, the research problems were:

1. Is the pattern of control of SE verb forms the same for all language and reading tasks? To what extent are SE responses on each task a function of grade and the particular verb forms?

2. To what extent does native dialect interfere structurally in black children's oral reproductions of spoken and written SE verb forms? What is the relation between nonstandard oral language production and oral reading performance?

3. What is the relation between comprehension and oral production of SE among kindergarten, first and second grade black children? Is the relation between receptive and productive control of SE the same for all verb forms, and is it grade related?

4. What is the relation between oral reading in SE and reading comprehension among first and second grade black children? Is the relation between oral reading in SE and reading comprehension similar for all verb forms and is it grade related?

5. What are the interrelations among aural comprehension, oral production, oral reading and reading comprehension of SE for first and second grade black children? To what extent is reading comprehension a function of receptive control of SE, productive control of SE, or receptive and productive control taken together?

II

PROCEDURES

Subjects

The subjects for this study were 198 black children in grades kindergarten, one and two, selected from four elementary schools (Schools A, B, C, and D). Schools A and B were located in different boroughs of New York City and Schools C and D were located in different metropolitan suburban communities on Long Island. All four schools were designated as Title I schools, indicating they qualified for educational assistance funds under the ESEA Act of 1965 to serve the needs of poverty children.

The Title I designation was used as a gross indicator of socioeconomic level of the school population. Precise data on socioeconomic status of individual subjects were not obtainable. In three schools, however, a second index was used to confirm subjects' socioeconomic status. This index was either the subject's designation as a free lunch student or as a member of the Title I target population.

Selection of the Schools

Schools in communities with predominantly black populations were sought for this study. Permission to conduct research in school districts in the metropolitan New York area requires approval by the school board, district administrators, principal and parents. Several schools were approached before final approval was obtained from four schools. The investigators decided to include all four in the study rather than select from among them because (1) no one of the four schools would have yielded an adequate sample at each grade level, (2) the use of both urban and suburban schools would provide greater representativeness, and (3) using both urban and suburban schools would add to the generalizability of the results to a wider low socioeconomic status black student population.

Selection of the Subjects

All of the 228 black subjects in grades kindergarten, one and two for whom parental consent was obtained were considered for inclusion in the study. Eight children identified by teachers or school nurses as having speech or hearing impediments were eliminated since these factors could bias performance on the language tasks. In addition, three children were eliminated on teacher recommendation because of special learning disabilities. Of the remaining 217 subjects, nineteen were lost due to

attrition. They either moved from the community or were absent for an extended period so that it was impossible to obtain measures on each of the tasks required for the study. This yielded a total of 198 subjects who met the ethnic (black) and low socioeconomic status criteria. Table 1 gives the distribution of subjects by grade, school and sex.

Table 1

Distribution of Subjects by Grade, School and Sex

School	Grade K		Grade 1		Grade 2		Sex Totals		School Totals
	M	F	M	F	M	F	M	F	
A	5	6	11	12	12	12	28	30	58
B	7	4	11	9	10	8	28	21	49
C	8	7	9	11	9	9	26	27	53
D	7	7	9	6	4	5	20	18	38
Totals	27	24	40	38	35	34	102	96	198
Grade Totals	51		78		69				

As Table 1 shows, there was a reasonable balance between the number of boys and girls at each grade level in each school, except for the kindergarten in school B and the first grade in school D. In each case, girls were lost due to attrition when they moved from the neighborhood.

The mean ages in months and standard deviations for boys and girls in each grade are listed in Table 2.

Table 2

Mean Ages in Months for Boys and Girls in Each Grade (N=198)

Group	Kindergarten $\bar{X}$	Kindergarten SD	First $\bar{X}$	First SD	Second $\bar{X}$	Second SD
Boys	70.03 (26*)	3.33	83.15 (40)	4.38	94.94 (35)	6.06
Girls	70.04 (24)	4.38	81.24 (38)	3.03	93.45 (33*)	4.59
Total	70.04 (50*)	3.85	82.22 (78)	3.88	94.22 (68*)	5.41

*Age data not available for 1 observation

Stimulus Materials

In order to obtain an accurate picture of the relations between black children's receptive competence and productive control of SE grammatical forms, it is necessary to measure the children's linguistic control through multiple language tasks (Chomsky, 1964; Osser, et. al., 1968; Ervin-Tripp, 1972) and, more specifically, to measure the children's linguistic control of the same SE structures on each of the tasks (Ervin-Tripp, 1972). This study was designed to do both. The stimulus materials developed for the study were designed to test the subjects' linguistic control of six SE verb structures that are known to have distinctively different forms in BE (Labov, 1967; Politzer and Bartley, 1969a and 1969b; Wolfram, 1969; Anderson, 1970; Fasold and Wolfram, 1970; Fasold, 1972). The six verb forms appeared in each of four tasks designed to measure receptive and productive linguistic control of SE: 1) a sentence repetition task, 2) an aural comprehension task, 3) an oral reading task, and 4) a reading comprehension task.

The following sections describe the development and rationale for the stimulus materials used in all four tasks.

Stimulus Sentences

Verb Forms Selected. Major sociolinguistic studies have shown that the language of low socioeconomic status urban black children differs significantly from SE in the use of verbs, primarily in the verb tense system and in the use of the copula and auxiliary forms of the verb be (Fasold and Wolfram, 1970; Fasold, 1972).

Based on previous findings on the verb system of BE, six SE verb forms were selected for study. These involved three broad categories of grammatical contrasts. They were (1) the third person singular present tense -s contrasted with (2) the past tense -ed; (3) the copula present tense singular [main verb] is contrasted with (4) the copula present tense plural [main verb] are; (5) the auxiliary present tense singular is [is plus verb with -ing] contrasted with (6) auxiliary present tense plural are [are plus verb with -ing].

Previous studies of this kind (Fraser, Bellugi, and Brown, 1963; Osser, et. al., 1968; Torrey, 1969) have shown that it is necessary to construct stimulus sentences that isolate each of the six verb structures from contextual redundancy in order to determine whether the subject has linguistic control over the specific feature selected. The selection of pairs of SE verb structures that involve either a contrast in tense or a contrast in number provided for control of contextual redundancy. This is discussed further in the following sections describing the sentences used to test SE tense and number contrasts.

1. Tense Markers

Two of the major differences between BE and SE lie in the tense marking of the third person singular present tense and the past tense. It is not uncommon to find that the past and present tenses are expressed by the same verb form in BE. For example, "The boy jump over the big puddle" could refer to the past or the present tense.

It is also true, however, that there is a high degree of variability in the presence of the two tense markers. The -s and -ed tense markers are not always absent; although the -s marker is absent significantly more often than the -ed marker. It has been suggested that the past tense -ed marker is a part of the grammatical system of BE, while the third person singular present tense marker -s is not (Fasold and Wolfram, 1970; Fasold, 1972). And it has been shown that the frequency of tense markers is age related; they are present in the speech of adults more often than in the speech of children (Wolfram, 1969; Fasold, 1972). Although these studies have provided a great deal of information about speech production, they do not provide information about the relation between production and comprehension of specific tense markings. When studying first and fourth graders, Hall, Turner, and Russell (1973) found little support for the

hypothesis that BE interferes with comprehension of SE third person singular present tense -s and the past tense -ed markers. Labov (1967), on the other hand, found that the -ed did not function effectively as a marker of past tense in a reading task used with adolescents.

To test children's control of SE present and past tense markers, pairs of sentences involving only a contrast in tense were used to control for contextual redundancy. For example, in the sentences "The boy jumps over the big puddle" and "The boy jumped over the big puddle", the only distinction between the sentences is the tense as marked by the -s and the -ed.

Further, the sentences were designed to permit study of linguistic control of the markers when they a) take on different phonetic shapes (i.e., allomorphs) and b) are found in different phonological environments.

1a. Allomorphs. Evidence from major linguistic studies (Labov, 1967; Fasold and Wolfram, 1970; Fasold, 1972) demonstrates that there are important phonological constraints on the use of SE verb forms by low socioeconomic status urban blacks. The third person present and past tense markers, -s and -ed, take different phonetic shapes (allomorphs) depending upon the final sound of the verb root. The present tense marker takes the shape /s/ following nonstrident voiceless consonants, as in jumps, /z/ following vowels and nonstrident voiced consonants, as in climbs, or /ɨz/ following strident consonants (sibilants and affricates) as in washes. The past tense marker takes the shape /t/ following voiceless consonants, as in jumped, /d/ following vowels and voiced consonants, as in climbed, or /ɨd/ following verbs ending in /t/ and /d/.

Although a number of studies have examined the productive control of SE by low socioeconomic status blacks through the use of a set of stimulus sentences similar to the ones developed in this study, few have controlled for the possible effects of the allomorph selected. (For example, see Garvey and McFarlane, 1968 and 1970.) The effects of the phonological shape of the verb marker can be controlled by selecting verbs all of the same class or by having an equal sampling of different verb classes within the set of stimulus sentences. Through a sampling procedure, the effects of the shape of the verb marker can be studied as well as controlled. Although Hall, Turner and Russell (1973) controlled for the possible effects of the shape of the verb markers by selecting all present tense verbs requiring the /z/ allomorph and past tense verbs requiring the /t/ allomorph, the results of their study can be generalized only to these cases.

In another study, however, Berdan (1973) selected and studied the /ɨz/, /z/ and /s/ third person singular present tense marker and found that there were significant differences in the use of these three SE verb markers. The /ɨz/ allomorph was used least often and the /s/ allomorph

was used most often. He also found a significant interaction between allomorph and grade level.

Fasold's findings (1972) confirmed that the /s/ and /z/ allomorphs are present more than the /ɨz/ allomorph, but he indicated that the phonetic shape of the allomorph actually had little effect on its presence or absence. Fasold and Wolfram (1970) and Fasold (1972) showed, however, that the realization of past tense markers does vary with their phonetic shapes. BE-speakers consistently use the past tense allomorph /ɨd/ more often than the allomorphs /t/ and /d/.

In light of the preceding information, past and present tense sentences were developed which permitted the control and study of allomorphs of each tense marker, as shown in Table 3.

Table 3

Past and Present Tense Allomorphs

Present Tense			Past Tense		
Class		Example	Class		Example
A.	/s/	jumps	A.	/t/	jumped
B.	/z/	climbs	B.	/d/	climbed
C.	/ɨz/	washes	CP*		washed
CP*		plants	C.	/ɨd/	planted

*CP=Contrast picture only

It can be seen that in the A and B classes, the same verb can be used to contrast the present and the past tense because the verbs marked by /s/ or /z/ in the present tense are marked, respectively, by /t/ or /d/ in the past tense. This pattern does not hold for verbs ending in sibilants, however, where the present tense marker is formed by the allomorph /ɨz/ but the past tense is not formed by the allomorph /ɨd/, i.e., the past tense verb marker for wash is a /t/ and not an /ɨd/ so the same verb could not be used to test both the past and present tense of class C. By the same token, verbs which take the /ɨd/ allomorph in the past tense do not take the allomorph /ɨz/ in the present tense.

An equal number of stimulus sentences was developed for each of the two tense markers: two sentences for each allomorph (a total of six present tense and six past tense sentences). These sentences were used in the two productive tasks. In the comprehension tasks, however, the present and past contrast was maintained in the class C case, as shown in Table 3, by presenting the appropriate picture to test comprehension of the /ɨz/ present tense verbs and the /ɨd/ past tense verbs.

1b. Environments. Previous research has shown that the use of present tense -s and past tense -ed markers are also affected by the phonological environment following the verb. For example, Labov (1967) and Fasold (1972) both found that the past tense marker -ed is absent more often when the word following the verb begins with a consonant than when it begins with a vowel. They disagree, however, about the effect of the following phonological environment on the present tense marker -s. In his New York population of adolescents, Labov found that the -s marker was more likely to be deleted before a vowel than before a consonant. In Washington, D.C., Fasold found that adolescents were slightly more likely to omit the -s marker before an initial consonant than before a vowel. The results of chi-square tests, however, showed that the effect of the following environment was not profound enough to be significant.

In order to test the influence of the following phonological environment on the presence or absence of the -s and -ed markers, half the sentences in the present study contained verb markers which appeared before consonants while the other half contained verb markers which appeared before vowels. In those sentences in which the past tense markers preceded a consonant, however, no words beginning with /t/ or /d/ were used since it is impossible to perceive the presence of the -ed marker in such an environment. For example, in the sentence, "He walked downtown," the -ed cannot be perceived even in SE speech.

Table 4 summarizes the final design for the 12 sentences used to test present and past tense markers.

Table 4

Design for Present and Past Tense Sentences

Present Tense			Past Tense		
Class	Environment	Example	Class	Environment	Example
/s/	___V	1.jumps over	/t/	___V	1.jumped over
	___K	2.picks five		___K	2.picked five
/z/	___V	1.climbs up	/d/	___V	1.climbed up
	___K	2.pulls my		___K	2.pulled my
/ɨz/	___V	1.washes out			*CP washed out
	___K	2.pushes rocks			*CP pushed rocks
		*CP plants all	/ɨd/	___V	1.planted all
		*CP hands me		___K	2.handed me

*CP=Contrast picture only

2. Is and Are

Another major difference between BE and SE lies in the use of the verb be. The frequent omission of is and are is characteristic of BE.

Full forms do exist in BE, but the tendency is for BE speakers to delete is and are where SE speakers can contract to the 's and 're forms (Labov, 1969; Fasold and Wolfram, 1970). It also has been found that are is deleted more often than is (Wolfram, 1969; Fasold and Wolfram, 1970).[1] Further, when the full forms are used, the lack of number agreement is characteristic of BE. Some BE speakers tend to use the present tense is for all persons, e.g., "The boys is there," "You is there" (Fasold and Wolfram, 1970).

[1] In this study, no attempt was made to distinguish between contracted and full forms, both of which were counted as presence of a form of the copula or auxiliary.

Stimulus sentences were designed to test for SE forms of is and are, both as main verb and as auxiliary. The other variables tested were preceding phonological environment and whether the stimulus sentence provided a single cue or double cue to number.

Contextual redundancy is more difficult to control in the case of singular/plural contrasts involving is and are, since in most sentences both the noun and verb give cues to number. There are exceptions, however, including those nouns, such as sheep, fish, deer, which have identical singular and plural forms. This is discussed further below.

2a. Environments. Stimulus sentences to test is and are as main and auxiliary verbs were developed to show the effects of preceding phonological environment, i.e., the last sound of the preceding noun. Labov (1969) found that is was deleted and contracted more often when it followed a pronoun than when it followed a noun phrase. When he studied the noun phrase endings he found the is deleted most often when preceded by a noun ending in a sibilant or a vowel, and least often when preceded by a voiced or voiceless nonsibilant consonant. Specifically, four classes of preceding environment affected frequency of deletion of is in the following descending order:

1) -V__ vowels
2) -S__ sibilants
3) -K^{v}__ nonsibilant voiced consonants
4) -K^{o}__ nonsibilant voiceless consonants

In the present study, three of these four classes (2,3 and 4) were used in the development of the stimulus sentences to test the main verb and auxiliary is: nouns ending in sibilants (-S); nonsibilant voiceless consonants (-K^{o}); and nonsibilant voiced consonants (-K^{v}). Sentences to test main verb and auxiliary are included the three classes that were the comparable plural formations of each of the is classes, i.e., the /ɨz/ for nouns ending in sibilants, the /s/ for nouns ending in nonsibilant voiceless consonants, and the /z/ for nouns ending in nonsibilant voiced consonants.

Since the phonological condition following is and are has not been found to be a major constraint on the realization of the copula, it was not used as a variable for study; in all stimulus sentences, is and are are followed by words which have voiced consonants as their initial sounds.

Table 5 represents the design used to develop sentences for the three classes of the main verb and auxiliary verb forms is and are.

Table 5

Preceding Environments for Is and Are Sentences

Main Verb is		Main Verb are	
Class	Illustration	Class	Illustration
-S	house is very	S/ɨz/	houses are very
-K°	duck is near	K°/s/	ducks are near
-K^{V}	car is between	K^{V}/z/	cars are between
Auxiliary is		**Auxiliary are**	
Class	Illustration	Class	Illustration
-S	house is burning	S/ɨz/	houses are burning
-K°	book is lying	K°/s/	books are lying
-K^{V}	dog is barking	K^{V}/z/	dogs are barking

2b. Number of Cues. The other variable in is and are sentences is the single or double cue to number. In the present study, half the sentences involved identical singular plural (ISP) nouns (fish, sheep, deer) so that the only cue to the distinction between sentence pairs was contained in the form of the verb, e.g., "The fish is diving to the bottom," and "The fish are diving to the bottom." Such sentences, however, are not common in SE. In order more nearly to represent everyday speech, sentences were constructed with the use of regular nouns (RN), e.g., "The house is burning to the ground," and "The houses are burning to the ground." These provide two number cues, one in the noun and one in the verb. Although such sentences contain contextual redundancy they represent more realistic use of SE and provide the opportunity to study children's knowledge of noun verb agreement in the use of is and are.

Hall, Turner, and Russell (1973) compared children's performance on single and double cue sentences of the type "boy climbs" vs. "deer runs." They found that, in general, comprehension was higher for double cue than for single cue sentences, but comparisons could be made only for the third person singular of the present tense verbs selected. In the present study, using is and are provided for a comparison of both singular and plural present tense in single and double cue sentences.

For each main verb and auxiliary form, six sentences were constructed; one with a single number cue and one with two number cues for each of the three environments. Table 6 shows the final design for the main verb and auxiliary *is* and *are* stimulus sentences used in this study.

Table 6

Design for Main Verb and Auxiliary *Is* and *Are* Sentences

Main Verb *is*			Main Verb *are*		
Environment	Cues	Illustration	Environment	Cues	Illustration
S_	2	house is very	S_	2	houses are very
	1	fish is very		1	fish are very
K°_	2	duck is near	K°_	2	ducks are near
	1	sheep is down		1	sheep are down
K^V_	2	car is between	K^V_	2	cars are between
	1	deer is behind		1	deer are behind
Auxiliary *is*			**Auxiliary *are***		
Environment	Cues	Illustration	Environment	Cues	Illustration
S_	2	house is burning	S_	2	houses are burning
	1	fish is diving		1	fish are diving
K°_	2	book is lying	K°_	2	books are lying
	1	sheep is running		1	sheep are running
K^V_	2	dog is barking	K^V_	2	dogs are barking
	1	deer is drinking		1	deer are drinking

Vocabulary Control and Sentence Length. Two additional controls were imposed in constructing the stimulus sentences: sentence length and vocabulary. All sentences were limited to seven or eight words, a length that has been used successfully in previous studies employing imitation and comprehension tasks with black children of similar age groups (Osser, et. al., 1968, with kindergarten children, and Hall, Turner and Russell, 1973, with first and fourth grade children).

Since the sentences were used in the reading tasks as well as in the language tasks, the vocabulary was controlled in order to assure that the sentences were within the reading vocabulary of primary grade

children. Basic lists of easy vocabulary and word lists in primary grade reading textbooks were used to select the words in constructing the stimulus sentences. In order to construct sentences that were as natural as possible, given the linguistic constraints, a few words were used that were not on the selection lists. The use of these words created no problem on the language tasks. In the case of the oral reading task, difficulties were handled by task administration procedures which are described later.

Appendix A contains a list of the 36 stimulus sentences used in the study. The critical features of each structure are indicated by the underlining in each sentence and scoring criteria are listed.

Stimulus Pictures

When the sentences for each of the six contrasting verb forms were constructed, corresponding sets of pictures were designed for use in the aural comprehension and the reading comprehension tasks. The two pictures used for each sentence contained the same representation of elements and differed only in the contrast to be observed: the time of the action, the number of elements possessing an attribute, or the number of elements performing the action. All drawings were prepared by a graphic artist in black ink on white paper. Appendix B contains examples of pictures used in the study. Pictures also were prepared for each of the three practice sentences.

Validation and Pilot Testing of Stimulus Materials

When the initial set of sentences for each of the six contrasting verb forms were developed they were submitted to two linguists specializing in BE.[1] The two linguists verified the selected verb structures as having nonstandard variants in BE and that the sentences met the criteria set for the selected linguistic variables under study.

The stimulus sentences were then pilot tested in a sentence repetition task given to 33 low socioeconomic status black children in kindergarten, first and second grade in a New York City school comparable to the ones used in the study. When the Kuder-Richardson formula 20 was applied to total scores, the reliability of the task was .86. The reliability of the six sentences in each verb structure scale was tested using the

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[1] Roger Shuy, Georgetown University, and Margaret Kocher, formerly with The Center for Applied Linguistics.

Horst[1] modification of the Kuder-Richardson formula 20. The results for each scale were: .56 for the third person singular present tense, .54 for the past tense, .50 for main verb is, .82 for main verb are, .58 for auxiliary is, and .80 for auxiliary are. Given the size of the pilot sample and the fact that the six items in each scale were intentionally designed to test three different classes of a verb structure under two different conditions, these scale reliabilities were considered acceptable for the study. If all six sentences in a scale had been constructed of more homogeneous items, i.e., items testing one class of each verb structure under a single condition, higher scale reliabilities would be expected.

Next, to determine whether the pictures adequately represented the contrasts intended, the pictures were presented to 27 children in the pilot study sample. The children were asked to select the picture that best represented each stimulus sentence and were asked why they made their choice. Although this procedure differed from procedures used in the final study, the subjects' scores based on picture selections were subjected to the Kuder-Richardson formula 20 and a reliability of .65 was obtained.

The pictures also were presented to 12 white, middle-class kindergarten children using the same procedure, to determine if young children who speak SE could discriminate between the two pictures and describe the tense and number concepts represented by them.

On the basis of the pilot test, all the selected critical structures were retained in the final set of 36 sentences. As a result of the children's responses in the pilot test, six sets of pictures were revised to represent more clearly the grammatical contrasts under study.

Receptive and Productive Tasks

The 36 stimulus sentences described above were used in all four tasks--two receptive and two productive--described below. The pictures were used in the two receptive tasks.

Oral Language Tasks

The oral language tasks constructed to measure the subjects' receptive and productive linguistic control of the six selected SE verb forms were a sentence repetition task and a sentence comprehension task.

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[1] Horst Modified Kuder-Richardson Formula in Guilford, J.P. Fundamental Statistics in Psychology and Education, New York: McGraw Hill, 1965, pp. 461-2.

Sentence Repetition Task. The sentence repetition task (SR)--called sentence imitation by some researchers--was used to measure the subjects' productive control of SE.

The 36 stimulus sentences, which had been tape recorded by a native speaker of SE, were presented one at a time. Three practice sentences were used to insure that children understood they were to listen carefully to each tape recorded sentence and then repeat exactly what was said. If a child failed to respond, the tape recorded sentence was repeated once. The subject's reproductions of each of the 36 stimulus sentences were tape recorded on a Sony 800B reel-to-reel recorder using an external microphone.

Researchers (Labov and Cohen, 1967; Lenneberg, 1969) have shown that sentence repetition is a valid technique for measuring children's control of specific linguistic structures. This technique has been used successfully with black children of various ages to measure their productive competence in SE (Garvey and MacFarlane, 1968, 1970; Osser, et. al., 1968; Baratz, 1969; Hall and Turner, 1971; DeStefano, 1972; and Hall, Turner and Russell, 1973).

Sentence Comprehension Task. The sentence comprehension task (SC) was used to measure subjects' receptive control of the six verb forms.

In the SC task, subjects were presented with 36 sets of two contrasting pictures, one set for each stimulus sentence. The pictures were arranged so that the correct choice varied randomly from one sentence to the next. To test comprehension of each SE verb structure, the subject was presented with the appropriate set of contrasting pictures, and was asked by the examiner to listen carefully to the tape recorded stimulus sentence, look at the two pictures and point to the picture described by the sentence. The subject's picture selection was recorded by the examiner. If a subject did not respond to a test sentence after 10 seconds, the sentence was repeated. If a subject gave more than one response or changed a response, the sentence was repeated and the subject's final choice was recorded. In this task, also, three sets of pictures and stimulus sentences were used as practice items.

Similar techniques have been used to measure young children's comprehension of grammatical structures in their native dialect (Fraser, Bellugi, Brown, 1963; Lee, 1969; C. Chomsky, 1969) and with black children to test their receptive competence in SE (Osser, et. al., 1968; Hall and Turner, 1971; Nurss and Day, 1971; Roberts, 1972; Hall, Turner and Russell, 1973).

Reading Tasks

To test the subjects' productive and receptive control in reading SE, an oral reading task (OR) and a reading comprehension task (RC) were devised. These tasks used the written form of each stimulus sentence with its corresponding set of contrasting pictures.

Oral Reading Task. Each subject was presented with the 36 sentences, one at a time. Each sentence had been typed in primer type on the lower half of an 8 1/2 by 11 inch page. The subject was asked to read the sentence aloud and the oral reading was tape recorded on a Sony 800B reel-to-reel recorder. The child was encouraged to decode the words independently. However, if the child was unable to decode words within 10 seconds, the examiner assisted by cuing difficult words, except those containing the critical structure. When a subject was unable to decode words containing the critical structure, he was directed to skip those words and continue with the rest of the sentence and was then asked to read the sentence again trying to fill in the missing words. (In most cases, children were then able to supply the missing words.) When a subject made a false start, repeated parts of a sentence, or reread an entire sentence after decoding it, the final reading of the sentence was used as the measure of oral reading.

Reading Comprehension Task. The reading comprehension task was administered along with the OR task. Immediately after the child completed the oral reading of a stimulus sentence, he was shown the appropriate set of contrasting pictures and was instructed to select the one he had just read about. The pictures were shown to the subject after the sentence had been read orally in order to eliminate any reading clues from the pictures. In the RC task, as in the SC task, pictures were arranged so that the correct choice varied randomly. The subject's picture selection was recorded by the examiner, as the measure of comprehension of the stimulus sentence. If the subject gave more than one response or changed his selection, the final choice was recorded. Three practice sentences, and their corresponding sets of contrasting pictures, were used to insure that the subjects understood both the OR and RC tasks.

Testing Procedures

The testing procedures and the procedures used to control for experimental effects are described in the following sections.

Task Administration

Subjects were given all the tasks during March, April and May, near the end of the school year. All language and reading tasks were administered to subjects individually by the two principal investigators and two

research assistants trained in the administration of the tasks. The subjects were randomly assigned to the four examiners to control for examiner effects on each task. The examiners were white and had more than five years experience working with young black children. The school setting, with white task administrators, was intended to create a social context which would maximize the child's use of SE.[1]

The SR and SC tasks were administered to the 198 subjects in kindergarten, first and second grades. These two tasks were given to each subject in the first testing session which lasted approximately 30 minutes, 15 minutes for each task.

The OR and RC tasks were administered to first and second grade children in a second testing session. Of the 78 subjects who were able to complete the reading task, most second graders and some first graders were able to do so in one sitting. Examiners watched for signs of fatigue and permitted subjects who showed such signs to take the reading task in two sittings, half of the sentences the first day and the other half the following day.

Although the original design called for the administration of the reading tasks to all first and second grade subjects in the study, it was apparent that many first graders were unable to read well enough to provide an adequate sampling of reading behavior for analysis in this study. Using responses to the practice sentences and the first six test sentences, examiners were able to judge the subjects' ability to complete the reading tasks. Thirty-four of the 78 first graders in the study were judged to be nonreaders and were eliminated from the reading task sample. These judgments were, in each case, verified by the subject's teacher. The reading tasks were completed by 113 subjects, 44 in the first grade and 69 in the second grade.

Control of Experimental Effects

Specific procedures were used to control for effects related to sentence order and task order. These are described below.

Random Sentence Order (RO). In order to control for the effects of sentence order, the 36 stimulus sentences were presented to subjects in one of two random orders. The first random order (RO 1) was obtained by assigning the stimulus sentences a number from 1 to 36 using a table of random numbers. The second random order (RO 2) was obtained by dividing the stimulus sentences in RO 1 into four equal parts of 9 sentences each and reordering the sentences so that the first and last nine sentences became the middle 18 sentences, and the middle 18 sentences became the first and last nine.

[1] During the last week, an SE-speaking black graduate student assisted, but the number of subjects tested was negligible in terms of the total; therefore, it is doubtful that results were affected by race of examiner.

Stimulus tapes and pictures were prepared for each random order. Subjects were randomly assigned to one of the two random orders for all of the tasks they completed.

Language Task Order (TO). Subjects took the reading tasks last, however, in order to control for order effects on the oral language tasks, subjects at each grade level were randomly assigned to one of two task orders. In task order one (TO 1), subjects took the SR task first followed by the SC task. In task order two (TO 2), SC was taken before SR. Table 7 shows the resulting RO by TO distribution of the 198 subjects who took the SR and SC tasks.

Table 7

Random Order by Task Order Distribution of Subjects for the SR and SC Tasks (N=198)

RO 1		RO 2	
TO 1	TO 2	TO 1	TO 2
51	50	50	47
Totals		Totals	
RO 1 = 101		RO 2 = 97	
TO 1 = 101		TO 2 = 97	

Reading Sentence Order (RSO). Although subjects were assigned to RO 1 or RO 2, the effects of sentence order were further controlled in the reading tasks so that the subjects would not be reading the sentences in the same order in which they had been presented to them in the oral language tasks. To accomplish this, subjects were randomly assigned to one of two reading sentence orders. In reading sentence order one (RSO 1), subjects were asked to read sentences 1 to 18, followed by sentences 19 to 36, and in reading sentence order two (RSO 2), they were asked to read sentences 19 to 36, followed by sentences 1 to 18. Table 8 shows the resulting RO by TO by RSO distribution of the 113 first and second grade subjects who completed the reading tasks.

Table 8

RO by TO by RSO Distribution of Subjects Who Took the Reading Tasks (N=113)

		RSO 1	RSO 2
RO 1	TO 1	17	10
	TO 2	17	13
RO 2	TO 1	14	15
	TO 2	12	15
Total		60	53

Within the constraints inherent in the use of three grade levels in four different schools and the loss of subjects due to attrition, distribution of subjects for the language and reading tasks were reasonably balanced to control for experimental effects related to sentence orders and task order. Statistical checks on the control of these experimental effects are reported in the findings section.

Analysis of Task Responses

Transcription of SR and OR Responses

The first step in the analysis procedures was the transcription of the SR and OR tape recordings. Specific procedures were developed for transcribing tapes in order to establish an accurate record of subjects' responses to the SE forms in the stimulus sentences.

Training Transcribers. For training purposes, SR and OR tapes of five non-subjects were transcribed independently by the two principal investigators and three research assistants using an adaptation of the Reading Miscue Inventory (RMI) (Y. Goodman and Burke, 1972).[1]

[1] The RMI was selected as the basic system for transcribing tapes because it could be adapted easily for use in transcribing both the SR and the OR samples. The RMI system permits recording of substitutions, omissions, insertions and repetitions, all of which were exhibited by subjects in the sample. Variations in pronunciation were not recorded unless they involved a change in the phonemic shape of a marker within the critical structure.

The team of transcribers met to compare transcriptions and to identify areas in which problems occurred. Discussions helped to resolve some disagreements but those that remained were listed with specific examples from the tape recordings. This list of problem areas was used as the basis for a training session with a linguist specializing in BE.[1] Guidelines for listening for specific phonemic representations of the critical structures were established with the help of the linguist. Using the set of guidelines, the team practiced independent transcription of additional tape recordings until an inter-rater agreement of 90% was reached.

Transcription of Tapes. In order to control for individual bias in transcribing, the five members of the research team were organized into ten transcription teams. Then each SR and OR tape was randomly assigned to one of the transcription teams. Using this procedure, each subject's responses were transcribed independently by the two members of a transcription team. The two transcripts were compared and where differences occurred, the transcribers listened to the tape recordings together to resolve them. If disagreements could not be resolved, a transcriber from another team listened to the tape to resolve the disagreement.

Coding of SR and OR Responses

All the different SR and OR responses to the critical structures in the stimulus sentences were listed and tallied. It was found that all responses could be classified into five categories: (1) critical SE responses (CSE), (2) SE form changes (SFC), (3) nonstandard responses (NS), (4) indeterminate responses, and (5) other. A description for each response category follows.

Critical Standard English Responses. A response was categorized as a critical SE response (CSE) if it matched the critical structure exactly or, in the case of the main verb *is* and auxiliary *is*, was a contracted form. The use of the SE grammatical form of the critical structure was the criterion for assignment to this category; therefore, if a child substituted a different word in the critical phrase but retained the expected grammatical form, his response was assigned to this category. For example, if a subject responded "boy_ runs over" to the stimulus "boy_ jumps over" it was categorized as a CSE response. Appendix A contains the criteria used to score CSE responses.

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[1] Margaret Kocher

Standard English Form Changes. Responses which did not match the critical structure as given in the stimulus sentence but were alternate forms of SE were categorized as SE form changes (SFC). These responses tended to reflect transformations in tense and number. For example, if a subject responded "mother_ washed out" or "mothers wash_ out" to the stimulus "mother_ washes out" the response was categorized SFC. As in the preceding category, semantic substitutions were accepted as long as the response was SE in form.

Nonstandard Responses. Responses to critical structures that could not be considered SE were categorized as nonstandard responses (NS). Most of these responses were predictable BE equivalents of the critical structures while others were obviously idiosyncratic to individual speakers. Since criteria for CSE included presence of the marker as well as subject-verb agreement for stimulus sentences involving the third person -s, responses such as "the monkey_ climb_ up" and "the monkeys climbs up" were both categorized NS. In the first case, the third person present tense marker was deleted and in the second case (a case of mixed forms), the marker was present but the response does not meet the criterion of subject-verb agreement. Similarly, for the main verb is, responses such as "the sheep _ down" and "the sheeps is down" to the stimulus "the sheep is down" were categorized NS.

This category also included nonstandard responses that involved changes in the verb form. For example, responses such as "the dog_ are pulling" to the stimulus "the dog_ pulls" were categorized NS. Included also were responses which involved changes in the phonetic shapes of the critical tense markers and reflected hypercorrection or lack of control of the SE structures. For example, responses such as "jumpted" for "jumped" were categorized NS.

Indeterminate Responses. When it was impossible to determine whether the response was SFC or NS, it was categorized as indeterminate. Indeterminate responses occurred in the third person present tense sentences, and the main verb are and auxiliary are sentences that involved ISP nouns. For example, for the stimulus "girl_ pushes rocks," in a few cases it was impossible to determine whether a subject had responded "girls _ pushing rocks" (NS) or "girl's pushing rocks" (SFC). For sentences involving ISP nouns with the main verb are and auxiliary are, such as "the deer are drinking" it was impossible in some cases to judge whether the subject had responded "the deers _ drinking" (NS) or "the deer's drinking" (SFC). Such responses were categorized as indeterminate.

Of a possible 7,128 responses on the SR task, there were only 28 responses, or less than half of 1%, judged to be indeterminate. Of a possible 4,068 responses on the OR task, only 16 responses, or less than half of 1%, were judged to be indeterminate.

Other Responses. The final category represented those responses for which the critical structure was partially or totally inaudible, the response was lost due to an error in recording procedures, or the phrase containing the critical structure was partially or totally omitted by the subject. In addition, if the examiner inadvertently cued a child on critical structure words in OR, these responses were eliminated by categorizing them as Other. On the SR task, there were 12 (less than half of 1%) and on the OR task, there were 16 (less than half of 1%) responses that were lost for the above reasons and therefore categorized as Other.

All subjects' responses to the critical structures in SR and OR were coded using the system described above. Additionally, types of responses were tallied within each category separately so that the frequency and percent of such responses within categories could be retrieved. This procedure provided a description of linguistic performance on each task and on specific structures within tasks and allowed examination of patterns of responses for individuals and for groups. For example, if subjects did not respond with the critical SE form, it was possible to determine whether they responded in nonstandard forms or in alternate SE forms, thus providing a more comprehensive picture of their control of SE in sentence repetition and oral reading.

Scoring of the Tasks

Two types of scores were calculated for all oral language and reading tasks; namely raw scores and percentage scores.

Raw Scores. On the SR and OR tasks, the subject's raw score was the number of CSE responses, that is, the number of responses that matched the critical structure exactly or were acceptable variations of the 36 sentences in each task. (Appendix A contains the criteria for scoring CSE responses to the six SE verb forms). The subject's raw score for SC and RC was the number of pictures selected correctly for the 36 items on each task, or for each verb form, the number selected correctly of the six items for each structure.

Percentage Scores. In addition, each subject's responses on the four tasks were converted to percentage scores. For SC and RC, a subject's CSE percentage score was simply the percentage correct of 36 items on each task, or, for each verb form, the percentage correct of six items.

For SR and OR, three percentage scores were calculated for each subject. These were the percentage of CSE, SFC, and NS responses, based on the subject's scorable responses for each task or for each verb form. Each subject's scorable responses were the number of items in a task (36), or for a verb form (6), minus the total number of

indeterminate and other responses. Therefore, each of the three scores represent a ratio of the frequency of each type of response to the number of possible responses for each subject.

Percentage scores were used in the statistical analyses for each research problem. Raw scores were used in some preliminary analyses and for descriptive data such as frequencies of CSE responses to sentences in the SR and OR tasks.

Reliability of Tasks

The Kuder-Richardson formula 21 (KR-21) was applied to subjects' percentage scores in order to obtain an index of the reliability of the tasks used in this study. Reliability was established on CSE and NS percentage scores since these scores were used in the statistical analyses of the research problems. Table 9 presents the KR-21 values and the means and standard deviations for CSE scores on all four tasks and for NS scores on the two productive tasks. These statistics are presented for the SR and SC tasks for the total K, 1 and 2 sample and for all four tasks for the first and second grade readers.

Table 9

Means, Standard Deviations and Reliabilites of CSE and NS Percentage Scores on the Four Tasks

		CSE Scores			NS Scores		
Group	Task	$\bar{X}$	SD	KR-21	$\bar{X}$	SD	KR-21
K,1 and 2 Sample (N=198)	SR	69.39	18.02	.94	18.83	13.99	.93
	SC	57.97	9.02	.70			
1 and 2 Readers (N=113)	SR	74.95	15.57	.93	14.58	11.22	.91
	SC	61.50	8.96	.71			
	OR	72.46	15.20	.92	19.63	13.59	.92
	RC	60.30	9.26	.73			

As the data in Table 9 show, the two productive tasks (SR and OR) were the most reliable with coefficients above .90 for subjects' CSE and NS percentage scores. The coefficients for the two comprehension tasks (SC and RC) are comparable but indicate that these tasks were somewhat less reliable than the productive tasks.

The lower reliabilities of the comprehension tasks are explained in part by the fact that the standard deviations for the comprehension tasks are substantially smaller than those for the productive tasks indicating less variability in subjects' performance on the SC and RC tasks. It is possible that guessing affected the reliability of the comprehension tasks since only two pictures were used with each sentence. It might have been more appropriate to use a third neutral picture as a decoy to reduce guessing. On the other hand, the differences in standard deviations between productive and receptive tasks might indicate that among young school-age black children there actually exists considerably less variation in the ability to comprehend SE than in the ability to produce SE.

III

FINDINGS

The results of the study are presented in this chapter in six sections: preliminary findings for control variables, sex and school effects; patterns of acquisition of SE verb forms in language and reading tasks; interference from native dialect in oral reproductions of spoken and written SE; relation between receptive and productive SE responses; relation between oral reading and reading comprehension, and relations among receptive and productive language and reading skills in SE verb forms.

Preliminary Findings

Before the data for each research problem were analyzed, several preliminary analyses were done to determine if there were any systematic effects due to control variables, sex and school.

Control Variables

Procedures to control for effects related to the order in which the sentences were presented (RO), the order in which the SR and SC tasks were taken (TO) and the order in which the reading task sentences were read (RSO) were described in Chapter Two.

To determine whether effects due to RO and TO were successfully controlled, the data for each task were subjected to a 2 x 2 analysis of variance. The results (see Appendix C) show there were no significant main effects due to RO or TO on any of the four tasks, nor were there any significant effects due to the interaction of these control variables.

In addition, results of *t* tests (see Appendix D) show there were no significant differences between the two reading sentence orders (RSO) for either of the reading tasks or for any of the verb structure scores within the tasks. Based on results of these preliminary analyses, the three control variables were pooled in the analyses of the research problems.

Sex

In order to determine whether there were any significant differences between the SE performance of male and female subjects, the data were analyzed by sex for each of the four tasks. The results (see Appendix E) show there were no significant differences related to sex for any of the four tasks. Further, analyses for each verb form within each task were

computed and no differences between male and female subjects' performance were found except for the past tense -ed on the two comprehension tasks. Since the analyses show no significant differences between the sexes for any of the four total task scores and only two significant differences (at $p < .05$) for the 24 verb structure scores, data for sex were pooled in the analyses of the research problems. Further evidence of the absence of any systematic relation between sex and SE performance is indicated by the correlations between sex and scores on each of the tasks (SR: $r = .00$; SC: $r = .09$; OR: $r = .05$; RC: $r = .05$).

Schools

Since it was necessary to draw the sample from four schools in order to obtain an adequate number of subjects for this study, an analysis was performed to see if the groups were homogeneous. Tests of homogeneity of variances using Bartlett-Box F showed there were no significant differences in the school variances for performance on any of the four SE tasks (SR: $F = .253$; $p = .86$; SC: $F = .75$; $p = .52$; OR: $F = 1.40$; $p = .241$; RC: $F = .61$; $p = .61$).

The results of these preliminary analyses indicate that the subjects drawn from the four Title I schools in predominantly black low socioeconomic areas formed a reasonably homogeneous sample. Since homogeneity of school variances was found for the four performance measures and since school differences were not a major focus of this study, school data were pooled for the analyses of the research problems.

Problem 1

Acquisition of SE Verb Forms

The research questions for Problem 1 were: Is the pattern of control of SE verb forms the same for all language and reading tasks? To what extent are SE responses on each task a function of grade and the particular verb forms?

To answer these questions, an analysis of variance for a repeated measures design was carried out on the CSE percentage scores for each of the four tasks using grade and verb structure as independent variables. Differences among means for significant main effects were tested at the .01 level using the Newman-Keuls procedure. In addition, tests of the simple main effects were computed to determine if there were significant differences among the grades in performance on each verb structure. As a measure of the amount of variation in CSE responses on each task that could be attributed to each main effect

and the interaction, the percent of the total sums of squares for grade, structure and the grade by structure interaction were calculated. This measure was used as an indication of the extent to which receptive and productive language and reading performance in SE (dependent variable) is a function of grade and/or verb structure (independent variables).

Receptive and Productive SE Responses of K, 1 and 2 Subjects

The results of the analyses of SR and SC responses of kindergarten, first and second grade subjects are presented below.

Sentence Repetition. SR was used as a measure of children's productive control of SE. The mean percentage scores and standard deviations for subjects' critical SE responses for each verb structure on the SR task are presented for each grade and the total group in Table 10 along with the results of the analysis of variance and the tests of the simple grade effects.

The means in Table 10 are ordered on the basis of the magnitude of total group means for the six verb structures. As can be seen, kindergarten, first and second grade children as a group obtained the lowest mean CSE score (53.94) for the past tense -ed and the highest mean CSE score (89.45) for the auxiliary is. In addition, the total SR task means for each grade indicate that second graders produced more CSE responses (77.13) than first graders (67.13) who produced more CSE responses than kindergarteners (62.37), revealing an age-related trend in the acquisition of productive control of SE verb forms.

As the F ratios for the analysis of variance of the CSE scores for the SR task indicate, grade, verb structure and the interaction of the two are significantly related to productive performance in SE.

Results of the Newman-Keuls tests showed that for the total group there were significant differences among all verb structure means except between the third person singular -s and the main verb are. Children in this study demonstrated productive control of the six SE verb forms in the following descending order: 1) auxiliary is, 2) main verb is, 3) auxiliary are, 4) main verb are and the third person singular present -s, and 5) the past tense -ed.

The order of the verb structure means for each grade (lowest for the past tense -ed and highest for auxiliary is) shows that the pattern of control at each grade level is similar to that reflected by the total group means. The significant F ratio for the grade by structure interaction, however, indicates that performance across the six verb structures differed

Table 10

Grade By Structure Analysis of CSE Responses on the Sentence Repetition Task

Means and Standard Deviations

Grade (N)	-ed	-s	are	aux. are	is	aux. is	Total Task
K (51)							
X	43.51	55.08	53.80	58.43	76.06	86.55	62.37
SD	27.55	33.60	31.91	33.78	24.10	18.83	18.95
1 (78)							
X	51.79	54.36	61.85	66.18	78.86	88.87	67.13
SD	28.18	31.05	30.82	32.28	19.31	18.88	17.38
2 (69)							
X	64.07	74.58	71.13	79.61	81.59	92.25	77.13
SD	22.58	25.34	27.67	26.18	16.86	15.78	15.21
Total (198)							
X	53.94	61.59	63.01	68.86	79.09	89.45	69.39
SD	27.30	31.24	30.65	31.70	19.90	17.90	18.02

Grade Effects

F (2,195)	9.41	12.96	6.51	10.20	.66	.72	12.34
p	<.01	<.01	<.01	<.01	ns	ns	<.0001

Analysis of Variance

Source	SS	df	MS	F	Percent of Total SS
TOTAL	1028924.23	1187	866.83		
BETWEEN	388412.39	197	1971.64		
Grade (G)	43638.20	2	21819.10	12.34**	4.24
Subj. w. grades	344774.19	195	1768.07		
WITHIN	640511.83	990	646.98		
Structure (S)	165724.44	5	33144.89	69.86**	16.11
G x S	12193.52	10	1219.35	2.57*	1.19
S x subjects w. grades	462593.87	975	474.46		

**p <.0001.
*p<.005.

for the three groups. Inspection of the cell means in Table 10 suggests that the interaction can be explained primarily by differences in the three groups' performance on the third person -s where the kindergarten and second graders achieved slightly higher scores for this structure than they did for the main verb are. Although the interaction was significant, it accounts for little more than 1% of the variation in the production of SE on the SR task.

The F ratio for grade (see Table 10) indicates there were significant differences among the groups in SE production. The results of the Newman-Keuls test showed that, although the first grade mean is higher than the kindergarten mean, these two groups do not differ significantly. The second grade mean, however, is significantly higher than the means for the first grade and the kindergarten, suggesting a sharp increase in the ability to control production of SE verb forms between the first and second grades.

Analyses of the simple main effects of grade (see Table 10) on performance for each structure show that there were no differences among the grades in the ability to use the SE forms of the main verb is and the auxiliary verb is. This finding compares with previous sociolinguistic research which has demonstrated that is is a regular feature in BE. The kindergarten percentage scores (76.06 and 86.55) show that even at this level, children have little difficulty controlling production of SE forms of main verb is and auxiliary is in a formal testing situation.

Differences among the grade means are significant for each of the other verb structures, indicating that the children increase significantly in their ability to produce the SE forms of the past tense, third person singular present tense, and the main verb are and auxiliary are from kindergarten through second grade. This is evidence that during the early school years black children increase significantly in their ability to control these four critical features of SE (-ed, -s, main verb are, auxiliary are) that previous researchers have identified as distinguishing BE-speakers from SE-speakers.

Although the F ratios in Table 10 indicate that grade and verb structure each have a significant effect on children's performance on the SR task, a comparison of the percent of the total variation accounted for by each variable indicates that verb structure is the stronger determinant of SE production. While grade accounts for approximately 4% of the total variation in production of CSE responses, verb structure accounts for more than 16%. It can be concluded, then, that among young, school-age black children in this study, production of SE is more a function of the SE verb form they are asked to produce than it is of the children's grade level, although grade level is influential.

Variability in Production of SE

Previous researchers have demonstrated that BE-speakers exhibit a range of behavior in producing both BE and SE features (Fasold, 1972; DeStefano, 1972). Fasold (1972) suggests that variability can be studied by presenting data for individual speakers showing, for example, how many individuals use a feature in all, some or none of the instances in which it is appropriate.

Table 11 presents the variability in the oral production of CSE responses for each of the verb forms in the SR task. The data show the percentage of subjects at each grade level and in the total group who produced the critical SE feature in none of the sentences (0), in some of the sentences (1-5), and in all of the sentences (6) used to elicit each verb form.

It can be seen that for four of the six verb structures (-s, -ed, main verb are, auxiliary are), 7 to 8% of the subjects produced no CSE responses. It is also evident, however, that many subjects produced the CSE verb form for every sentence in which it was expected. The percentage of subjects in the total group who consistently produced CSE responses for a verb form ranged from 9% for the past tense -ed to 63% for the auxiliary is.

Table 11 also shows that variability in the production of SE differs for the six verb structures. There is noticeably less variability among subjects for the main verb and auxiliary forms of is than occurs for the other verb structures. The greatest variability in performance occurs in the use of the two tense markers (-s and -ed).

The data also show that variability in production of SE verb forms decreases as grade level increases, i.e., second graders do not vary as a group as much as kindergarteners or first graders. Black children are more consistent in productive control of SE as they progress through the grades.

Table 11

Variability in Oral Production of CSE Responses on the SR Task[a]

Verb Form	Grade	Number of CSE Responses						
		0	1	2	3	4	5	6
present tense -s	K	10	16	14	8	21	12	19
	1	11	9	15	14	20	19	12
	2	3	0	7	17	15	26	32
	Total Grp.	8	8	12	14	18	20	20
past tense -ed	K	12	17	16	27	16	6	6
	1	9	10	14	26	19	14	8
	2	0	7	10	15	39	17	12
	Total Grp.	7	11	13	22	25	13	9
main verb is	K	2	0	10	10	16	31	31
	1	0	0	6	9	20	35	30
	2	0	1	2	3	25	39	30
	Total Grp.	.5	.5	6	7	21	35	30
main verb are	K	14	12	8	19	10	29	8
	1	8	9	11	14	14	27	17
	2	3	3	13	12	15	27	27
	Total Grp.	8	7	11	15	13	28	18
auxiliary is	K	0	2	2	4	12	27	53
	1	1	1	0	3	13	19	63
	2	1	0	0	0	10	18	71
	Total Grp.	.5	1	.5	2	12	21	63
auxiliary are	K	12	12	8	10	20	21	17
	1	7	8	8	14	9	27	27
	2	4	0	6	7	15	23	45
	Total Grp.	8	6	7	11	13	24	31

[a]Data in the table are percentages of speakers who produced the critical SE structures.

Sentence Comprehension. Responses on the SC task were used as a measure of children's receptive competence in SE. The mean percentage scores and the standard deviations for subjects' responses for each verb structure on the SC task for each grade and the total group are presented in Table 12 along with the results of the analysis of variance and the tests of simple grade effects.

In Table 12, total group means for the six verb structures again are presented from lowest to highest. As a group, kindergarten, first and second grade children have the lowest mean for the past tense -ed (40.10) and the highest mean for the main verb are (73.37). The F ratio for structure in the analysis of variance indicates that there are significant differences among the means for the six verb forms.

Results of the Newman-Keuls tests showed that, for the total group, there was no significant difference between comprehension of the past tense -ed and the main verb is. Neither were there differences between comprehension of the present tense -s and the main verb are. There were significant differences, however, between comprehension of auxiliary is and auxiliary are and between each of these and the four other verb forms. Subjects in this study demonstrated receptive control of the SE verb structures in the following descending order: 1) third person present tense singular -s and main verb are, 2) auxiliary are, 3) auxiliary is, and 4) past tense -ed and main verb is.

The order of the verb structure means is the same for each grade level with one exception; whereas the first and second graders have the highest mean score for the main verb are, the kindergarteners have the highest mean score for the third person singular present tense -s. As the significant F ratio for the grade by structure interaction indicates, the pattern of comprehension across the verb structures differs for the three groups, however, the interaction accounts for only 1.46% of the variation in comprehension scores.

The significant F ratio for grade in Table 12 indicates significant differences among the groups in comprehension of SE. The results of the Newman-Keuls procedure showed that first graders had significantly higher comprehension of SE than the kindergarteners and that second graders had significantly higher comprehension of SE than both the first graders and the kindergarteners. These results show that children increase significantly in their comprehension of SE at each grade level.

Results of the analysis of the simple grade effects on performance for each verb structure show that there were no significant differences among the three groups in the ability to comprehend the past tense -ed, the third person singular present tense -s, and the main verb is. There were, however, significant differences among the groups in the ability to comprehend the

Table 12

Grade By Structure Analysis of Responses on the Sentence Comprehension Task

Means and Standard Deviations

Grade (N)	-ed	is	aux. is	aux. are	-s	are	Total Task
K (51)							
$\bar{X}$	38.53	41.18	45.76	51.31	70.22	64.02	51.82
SD	19.89	16.49	19.65	21.56	17.93	20.91	5.93
1 (78)							
$\bar{X}$	39.83	41.88	52.95	67.09	72.82	74.53	58.33
SD	21.37	21.95	22.45	19.71	19.35	19.06	8.34
2 (69)							
$\bar{X}$	41.57	44.90	62.33	72.19	73.14	78.97	62.12
SD	23.15	23.77	20.11	19.03	21.00	20.09	9.23
Total (198)							
$\bar{X}$	40.10	42.75	54.37	64.80	72.26	73.37	57.97
SD	21.57	21.33	21.84	21.59	19.54	20.65	9.02

Grade Effects

F (2,195)	.33	.59	9.80	15.86	.34	7.93	23.71
p	ns	ns	<.01	<.01	ns	<.01	<.0001

Analysis of Variance

Source	SS	df	MS	F	Percent of Total SS
TOTAL	733940.09	1187	618.32		
BETWEEN	96530.43	197	490.00		
Grade (G)	18882.03	2	9441.02	23.71**	2.57
Subj. w. grades	77648.42	195	398.20		
WITHIN	637409.66	990	643.85		
Structure (S)	208281.42	5	41656.28	97.06**	28.38
G x S	10681.25	10	1068.13	2.49*	1.46
S x subject w. grades	418446.99	975	429.18		

**p <.0001.
*p <.01.

auxiliary *is*, the main verb *are*, and the auxiliary *are*, indicating a significant increase during the early school years in subjects' receptive control of these three SE verb forms. They showed no significant increase in comprehension of the past tense *-ed*, the third person singular present tense *-s* and the main verb *is*.

The *F* ratios in Table 12 show clearly that both grade and verb structure are related to comprehension of SE. A comparison of the percentage of total variation attributable to each, however, shows that verb structure accounts for more than 28% of the variation in SE comprehension scores while grade accounts for less than 3%.

It can be concluded, then, that among young, school-age black children in this study, comprehension of SE was more a function of the particular verb structures than it was of the children's grade level. Further, when the total group performance on the SR (Table 10) and SC (Table 12) tasks is compared, it can be seen that the order of the verb structure means is not the same. This indicates that the pattern of receptive control of SE verb forms differs from the pattern of productive control.

The Effect of Number of Cues on Comprehension

The stimulus sentences used to test the main verb and auxiliary forms of *is* and *are* were of two types, those in which the verb followed regular nouns and those in which the verb followed nouns having an identical singular plural form, e.g., *deer*. Since sentences containing regular nouns provide two cues to number (the noun and the verb) while the other sentences provide only one cue to number (the verb), subjects' responses on the two types of sentences were compared to determine if comprehension of *is* and *are* is affected by the number of cues in the sentence.

The frequency and percentage of correct responses to double and single cue sentences are presented in Table 13 for the singular and plural forms of the verb. The data for the main and auxiliary forms of each verb were combined in the analyses and are presented for each grade and the total group.

As the chi-square for total group data shows, comprehension of both the singular and plural forms was significantly higher for sentences containing double cues than those containing single cues to number. The findings agree with those of Hall, Turner and Russell (1973).

The data also show that comprehension of both types of sentences increases with grade level. The fact that the sharpest increase occurs for double cue sentences indicates that verb structure comprehension is reinforced by increased awareness of number markers in the nouns.

Table 13

Effect of Number of Cues on Comprehension of Is and Are

Main Verb and Auxiliary Is Combined

Group	Double Cue Sentences		Single Cue Sentences	
	f	%	f	%
K	133	43	133	43
1	249	53	195	42
2	244	59	199	48
Total	626	53	527	44

Chi Square results for the total group:
N=2376; df=1; χ^2=16.51; p<.001

Main Verb and Auxiliary Are Combined

Group	Double Cue Sentences		Single Cue Sentences	
	f	%	f	%
K	172	56	181	59
1	337	72	326	70
2	345	83	281	68
Total	854	72	788	66

Chi Square results for the total group:
N=2376; df=1; χ^2=8.59; p <.01

Note. Main verb and auxiliary forms of is and are were combined in the above analyses. Data represent the frequency and percentage of correct responses.

Comparison of First Grade Readers' and Nonreaders' SR and SC Responses

The original plan included administration of the two reading tasks to all first and second grade subjects. While all second grade subjects were able to complete the reading tasks, 34 of the 78 first graders were unable to do so and were, in effect, nonreaders. Ames, Rosen, and Olsen (1971), Johnson and Simons (1973), Hunt (1974) and others encountered similar difficulties in studies of black children's reading performance. Therefore, performance of first graders was examined to see if there were any significant differences in receptive and productive language behavior of the readers and nonreaders.

Sentence Comprehension. In Table 14 first grade readers' and nonreaders' performance on the SC task is compared. The two groups differ on only two of the six verb structures: the readers had significantly better comprehension than the nonreaders for the main verb *are* sentences, while the nonreaders had significantly better comprehension than the readers for the main verb *is* sentences.

Table 14

Comparison of First Grade Readers' and Nonreaders' Comprehension of SE Verb Forms

Verb Form	Nonreaders $\bar{X}$	Nonreaders SD	Readers $\bar{X}$	Readers SD	$\bar{D}$	t-ratio	p[a]
3rd person singular present tense *-s*	69.09	22.16	75.70	16.56	+ 6.61	1.51	ns
past tense *-ed*	34.85	22.20	43.68	20.12	+ 8.83	1.84	ns
main verb *is*	47.56	20.99	37.50	21.90	-10.06	2.05	.05
main verb *are*	65.21	19.36	81.73	15.54	+16.52	4.18	.001
auxiliary *is*	52.85	21.96	53.02	23.08	+ .17	.03	ns
auxiliary *are*	63.24	21.24	70.07	18.13	+ 6.83	1.53	ns
Total SC Task	55.47	7.22	60.55	8.55	+ 5.08	2.78	.01

[a] Two-tailed test.

Sentence Repetition. Table 15 presents the comparison of first grade readers' and nonreaders' CSE and NS responses on the SR task. As the t ratios for the CSE responses in Table 15 show, first grade readers and nonreaders did not differ in their ability to produce SE forms of the past tense -ed, the main verb is, and the auxiliary verb is. As the t ratios for the NS responses show, neither did the readers and nonreaders differ in their production of nonstandard forms for these same verb structures. The two groups did differ significantly, however, in their production of the third person singular present tense -s, the main verb are and the auxiliary are. The readers produced significantly more standard forms of these structures than the nonreaders, while the nonreaders produced significantly more nonstandard forms of these structures.

While first grade readers' responses on the total SR and SC tasks indicate significantly better overall receptive and productive control of SE than the nonreaders, the readers were not better than the nonreaders in their linguistic control of all the SE verb structures tested.

Table 15

Comparison of First Grade Readers' and Nonreaders' Performance on the Sentence Repetition Task

Verb Form	Nonreaders $\bar{X}$	Nonreaders SD	Readers $\bar{X}$	Readers SD	$\bar{D}$	t-ratio	p[a]
CSE Responses							
3rd person singular present tense -s	42.76	30.73	63.32	28.52	+20.56	3.05	.005
past tense -ed	50.29	26.90	52.95	29.39	+ 2.66	.41	ns
main verb is	81.38	19.09	76.91	19.47	- 4.47	1.01	ns
main verb are	50.56	30.48	70.57	28.44	+20.01	2.99	.005
auxiliary is	92.15	12.41	86.34	22.48	- 5.81	1.45	ns
auxiliary are	49.94	34.24	78.73	24.43	+28.79	4.15	.001
Total SR Task	61.44	18.03	71.52	15.68	+10.08	2.64	.01
NS Responses							
3rd person singular present tense -s	42.06	31.76	26.40	24.59	-15.66	2.45	.01
past tense -ed	45.74	27.84	45.14	28.31	- .60	.09	ns
main verb is	10.24	14.74	7.82	10.93	- 2.42	.83	ns
main verb are	25.76	21.62	11.88	18.40	-13.88	3.06	.005
auxiliary is	5.41	9.81	5.29	9.97	- .12	.05	ns
auxiliary are	18.67	17.27	6.48	10.34	-12.19	3.64	.001
Total SR Task	24.53	14.56	17.11	11.12	- 7.42	2.55	.01

[a]Two-tailed tests.

Receptive and Productive SE Responses of First and Second Grade Readers

Since there were significant differences between first grade readers and nonreaders on some verb structures, first and second grade readers' SE percentage scores on the SR and SC task also were subjected to a grade by structure analysis of variance. The purpose was to determine if the subjects who could read exhibited the same patterns of receptive and productive control of SE verb forms as subjects in the total K, 1, 2 sample.

Sentence Repetition. The means and standard deviations, and the results of the analysis of variance and the tests of the simple grade effects for the readers' CSE responses on the sentence repetition task are presented in Table 16.

As the F ratio for structure indicates, there were significant differences in the readers' ability to produce the various SE verb forms in the SR task, but the order of the readers' total group means for the various verb structures is the same as the order for the total K, 1, and 2 sample: the readers produced the SE form of the past tense -ed least often and produced the SE form of auxiliary is most often. Results of the Newman-Keuls test showed that the readers' pattern of productive control of the six verb forms differed from that of the total sample in only one respect: there was no significant difference between their ability to produce SE forms of auxiliary are and main verb is.

The nonsignificant grade by structure interaction F ratio (see Table 16) indicates that the pattern of productive control of the SE verb forms was the same for the readers at each grade level. The significant grade by structure interaction that was found for the total K, 1, 2 sample (see Table 10) indicated some differences in the order of productive control of SE verb forms at each grade level, however, the interaction accounted for very little of the variation in SE performance.

The similarity in production of SE forms between first and second grade readers is shown further by the fact that the F ratio for grade does not quite reach significance at the .05 level. It will be recalled that grade did significantly affect SE performance on the total task for the K, 1 and 2 sample (see Table 10) and that first and second graders differed significantly in the ability to produce SE forms.

In addition, tests of the simple effects of grade on each verb structure showed that the first and second grade readers differed in their ability to produce CSE responses on only two of the six structures, the -ed and -s; whereas children in the K, 1, 2 sample differed significantly in their ability to use SE forms of four of the six structures: the two tense forms and the main verb and auxiliary are. The fact that the first grade

Table 16

Grade By Structure Analysis of First and Second Grade Readers' CSE Responses on the Sentence Repetition Task

Means and Standard Deviations

Grade (N)	-ed	-s	are	aux. are	is	aux. is	Total Task
1 (44)							
$\bar{X}$	52.95	63.32	70.57	78.73	76.91	86.34	71.52
SD	29.39	28.53	28.44	24.43	19.48	22.48	15.68
2 (69)							
$\bar{X}$	64.07	74.58	71.13	79.61	81.59	92.25	77.13
SD	22.58	25.35	27.67	26.18	16.86	15.78	15.21
Total (113)							
$\bar{X}$	59.74	70.20	70.91	79.27	79.77	89.95	74.95
SD	25.90	27.07	27.85	25.40	17.98	18.81	15.57

Grade Effects

F (1,111)	5.76	5.91	.02	.04	1.02	1.63	3.70
p	<.05	<.05	ns	ns	ns	ns	.0538

Analysis of Variance

Source	SS	df	MS	F	Percent of Total SS
TOTAL	452850.47	677	668.91		
BETWEEN	164362.96	112	1467.53		
Grade (G)	5303.16	1	5303.16	3.70[a]	1.17
Subj. w. grades	159059.80	111	1432.97		
WITHIN	288487.47	565	510.59		
Structure (S)	60672.34	5	12134.47	29.95*	13.40
G x S	2981.30	5	596.26	1.47	
S x subjects w. grades	224833.85	555	405.11		

[a] $p = .0538$.

* $p < .0001$.

readers exhibited significantly greater control of SE forms of main verb and auxiliary are than the first grade nonreaders (see Table 15) helps to explain why there were no significant differences between the first and second grade readers' ability to produce SE forms of these verbs.

In summary, the first grade readers, who were more proficient in the use of SE forms than the first grade nonreaders, were more similar to the second graders in their productive control of SE than they were to first grade nonreaders.

Sentence Comprehension. The means, standard deviations, and the results of the analysis of variance and the tests of simple effects for the readers' percentage scores on the sentence comprehension task are presented in Table 17.

As the F ratio for structure indicates, there also were significant differences in the readers' ability to comprehend the various SE verb forms in the SC task. The order of the readers' total group means on this task reflects a comprehension pattern that is similar but not identical to the order for the total K, 1, and 2 sample. As a group they had the highest mean comprehension score for main verb are sentences and the lowest mean comprehension score for past tense -ed and main verb is sentences. Although the order of the past tense -ed and main verb is mean scores is reversed for the readers, there were no significant differences in SE production of these two structures for either the readers or the total sample. The readers' pattern of receptive control of the SE structures differed from that of the total K, 1 and 2 sample in only one other respect: there was no significant difference in their ability to comprehend auxiliary are and present tense -s.

For the SC task the F ratio for the grade by structure interaction is not significant for the readers, although it was for the total K, 1, 2 sample. This indicates that the pattern of receptive control of the six verb structures is the same for both first and second grade readers. In fact, the first and second grade readers were even more alike in their ability to comprehend the SE verb forms than they were in their ability to produce them. As the F ratio for grade shows, there was no significant difference between the first and second grade readers' performance on the total task. In addition, tests of the simple effects of grade (see Table 17) on each structure show that the first and second grade readers did not differ in their ability to comprehend five of the six verb forms.

In summary, the findings for the SC task indicate that the first grade readers were similar to second graders generally in their comprehension of SE verb structures.

Table 17

Grade By Structure Analysis of First and Second Grade Readers' Responses on the Sentence Comprehension Task

Means and Standard Deviations

Grade (N)	is	-ed	aux. is	aux. are	-s	are	Total Task
1 (44)							
$\bar{X}$	37.50	43.68	53.02	70.07	75.70	81.73	60.55
SD	21.90	20.12	23.08	18.13	16.56	15.54	8.55
2 (69)							
$\bar{X}$	44.90	41.57	62.33	72.19	73.14	78.97	62.12
SD	23.77	23.15	20.11	19.03	21.00	20.09	9.23
Total (113)							
$\bar{X}$	42.02	42.39	58.71	71.36	74.14	80.04	61.50
SD	23.25	21.95	21.69	18.63	19.35	18.42	8.96

Grade Effects

F (1,111)	3.48	.29	5.51	.29	.42	.48	1.19
p	ns	ns	<.05	ns	ns	ns	ns

Analysis of Variance

Source	SS	df	MS	F	Percent of Total SS
TOTAL	439013.37	677	648.47		
BETWEEN	54878.88	112	489.99		
Grade (G)	581.63	1	581.63	1.19	.13
Subj. w. grades	54297.24	111	489.16		
WITHIN	384134.51	565	679.88		
Structure (S)	152948.54	5	30589.71	74.68*	34.84
G x S	3839.38	5	767.88	1.88	
S x subjects w. grades	227346.59	555	409.63		

*p <.0001.

When first and second grade readers' performance on the SR and SC tasks is compared to that of the total K, 1 and 2 sample, it can be seen that grade is no longer a significant factor in the readers' SE production and comprehension. The particular verb forms, however, did influence performance, more so on the SC than on the SR task. Verb structure accounted for 13.40% of the variance in the readers' production of SE and almost 35% of the variance in their comprehension of SE verb forms.

Although the first and second grade readers as a group had greater linguistic competence in SE than the total sample of first and second graders, they exhibited patterns of productive and receptive control of SE verbs that are almost identical to those of the total K, 1, 2 sample.

SE Reading Responses of First and Second Graders

Oral Reading. The OR task was used as a measure of first and second grade children's productive reading ability in SE. The mean percentage scores and standard deviations for subjects' CSE responses for each verb structure on the OR task are presented in Table 18 for each grade and the total group with the results of the analysis of variance and tests of simple grade effects.

The data in Table 18 are ordered on the basis of total group mean scores for the six verb structures. The data show that first and second grade children as a group obtained the lowest mean CSE score (48.38) for the past tense -ed and the highest (88.04) for the auxiliary is on the oral reading task. It is important to note that the order of the verb structure total group means on this task is identical to the order of their means on the SR task (compare Tables 16 and 18). This indicates that the subjects' pattern of productive control on the six SE verb structures is similar in sentence repetition and oral reading, suggesting that the ability to produce SE forms in one task is related to the ability to produce them on the other task.

The OR total task means for each grade level indicate that second graders produced more CSE responses (76.62) than first graders (65.93), demonstrating a clear grade-related increase in the acquisition of productive control of SE in oral reading.

The F ratios in Table 18 show that grade, structure and the interaction between grade and verb structure each have a significant effect on oral reading of SE.

Results of the Newman-Keuls tests showed that for the total group, there were significant differences in SE production among some of the verb structures in oral reading. No significant differences were revealed between

Table 18

Grade By Structure Analysis of CSE Responses on the Oral Reading Task

Means and Standard Deviations

Grade (N)	-ed	-s	are	aux. are	is	aux. is	Total Task
1 (44)							
$\bar{X}$	36.82	42.52	71.36	75.57	82.89	85.61	65.93
SD	26.67	28.42	25.80	24.15	17.76	21.09	12.32
2 (69)							
$\bar{X}$	55.75	71.58	77.03	84.00	89.83	89.59	76.62
SD	29.18	27.94	17.81	13.75	14.89	13.68	15.46
Total (113)							
$\bar{X}$	48.38	60.27	74.82	80.72	87.12	88.04	72.46
SD	29.60	31.41	21.35	18.86	16.35	16.98	15.20

Grade Effects

F (1,111)	19.74	46.49	1.77	3.92	2.65	.87	25.94
p	<.01	<.01	ns	ns	ns	ns	<.0001

Analysis of Variance

Source	SS	df	MS	F	Percent of Total SS
TOTAL	503752.45	677	744.10		
BETWEEN	126014.30	112	1125.13		
Grade (G)	23869.06	1	23869.06	25.94*	4.74
Subj. w. grades	102145.24	111	920.23		
WITHIN	377738.15	565	668.56		
Structure (S)	142003.35	5	28400.67	70.75*	28.19
G x S	12940.57	5	2588.11	6.45*	2.57
S x subjects w. grades	222794.26	555	401.43		

*p <.0001.

main verb *are* and auxiliary *are* or among auxiliary *are*, main verb *is* and auxiliary *is*. Significant differences are revealed, however, between performance on the third person singular present tense *-s* and the past tense *-ed* and between each of these and all other verb structures. Subjects read the SE forms of the verb tenses significantly less often than they read the SE forms of the main verb and auxiliary *is* and *are*. These data show that in oral reading productive control of the tense markers is not as great as it is for the singular and plural forms of the main and auxiliary verb forms *is* and *are*.

The significant *F* ratio for the grade by structure interaction indicates that the pattern of productive control of the verb structures differed for the two groups. This difference is accounted for by the dramatic difference between first and second graders' ability to read the SE past tense *-ed*, (*F* = 19.74) and third person singular present tense *-s*, (*F* = 46.49). It is noteworthy that in the SR task, first and second grade readers differed significantly only on the two tense forms, again suggesting that productive performance on SR and OR tasks are related.

Realization of SE tense markers in OR increases significantly between first and second grade: means for the *-s* increase from 42.52 to 71.58 and for the *-ed* from 36.82 to 55.75.

It should be kept in mind that some of the grade differences in oral reading performance are undoubtedly attributable to the increased decoding skills of second graders. Also, the graphic representation of *-s* and *-ed* inflectional endings are less distinct than the separate words representing *is* and *are*.

Although both grade and verb structure significantly affect oral reading in SE, the type of verb structure accounts for the greatest variance, approximately 28%, while grade accounts for less than 5%.

Variability in Oral Reading of SE

The variability in oral reading of SE verb forms is presented in Table 19. The percentage of subjects (individuals) who produced the CSE feature in none of the sentences (0), in some of the sentences (1-5) and in all of the sentences (6), is presented for each grade level and the total group.

The data in Table 19 show that variability in subjects' oral reading differs for each SE verb form, and that the variability is much greater for the two tense markers than it is for the other forms. For the total group, the percent of subjects who consistently produced a specific SE verb structure ranged from 12% for the past tense *-ed* to 58% for the auxiliary *is*. As in the SR task, variability in oral reading is less in second grade than in

Table 19

Variability in Production of CSE Responses on the OR Task[a]

Verb Form	Grade	Number of CSE Responses						
		0	1	2	3	4	5	6
present tense -s	1	9	25	25	18	9	7	7
	2	3	6	7	17	15	19	33
	Total Grp.	5	13	14	18	13	14	23
past tense -ed	1	14	25	25	16	14	2	4
	2	3	18	10	26	17	9	17
	Total Grp.	7	21	16	22	16	6	12
main verb is	1	0	0	2	9	16	34	39
	2	0	0	1	1	15	22	61
	Total Grp.	0	0	2	4	15	27	52
main verb are	1	7	0	2	16	18	39	18
	2	0	0	6	9	29	33	23
	Total Grp.	3	0	4	12	25	35	21
auxiliary is	1	0	2	2	7	16	14	59
	2	0	0	0	2	17	23	58
	Total Grp.	0	1	1	3	17	20	58
auxiliary are	1	5	2	5	0	20	50	18
	2	0	0	0	3	23	42	32
	Total Grp.	2	1	2	2	22	45	26

[a] Data in table are percentages of speakers who produced the critical SE structures.

first grade; but even in second grade many do not perform consistently in SE on specific verb structures.

The data presented here are in accord with the findings of other researchers. In studies of oral reading, Goodman and Burke (1973) found that no subject who used BE features in oral reading used them consistently and Goodman and Burke (1973) and Ames, Rosen and Olsen (1971) found more consistency in the use of BE on some features than on others. Thus, the data presented here support the proposition that there is a great deal of variability among BE speakers in their control of SE verb forms and that the degree of consistent use of specific SE verb forms differs for each structure.

Reading Comprehension. The reading comprehension task was used as a measure of children's receptive reading competence in SE. The mean percentage scores and the standard deviations with the results of the analysis of variance and tests of simple effects for the RC task for the two grade levels and the total group are presented in Table 20.

The data in Table 20 are shown in ascending order of the total group mean scores for the six verb structures. As a group, the first and second grade children obtained the lowest mean score (42.81) for the past tense -ed, and the highest mean score (67.19) for the third person singular present tense -s.

The F ratios indicate that grade, type of verb structure and the interaction significantly affect reading comprehension of SE.

Results of the Newman-Keuls tests showed that the subjects differed significantly only in their comprehension of the past tense when compared with comprehension of the other verb structures. Comprehension of the main verb is, the auxiliary is, the main verb are, and the auxiliary are does not differ significantly for the total group. Similarly, comprehension of the auxiliary is, the main verb are, and the auxiliary are does not differ significantly from comprehension of the third person singular present tense for the total group. The results of performance for the total group, however, are not reliable indicators of the behavior for the first and second grade groups considered separately. The pattern of performance on SE verb structures established by the total group mean scores is not reflected in the pattern established by either the first or second grade groups. As the significant F ratio for the grade by structure interaction indicates, the pattern of performance across structures differed signficantly for the two groups. The differences in performance reflect in part the greater SE oral language and reading proficiency of the first grade subjects who were in the reading sample.

The F ratio for grade in Table 20 indicates a significant difference between the groups in reading comprehension of SE. The results show that

Table 20

Grade By Structure Analysis of Responses on the Reading Comprehension Task

Means and Standard Deviations

Grade (N)	-ed	is	aux. is	are	aux. are	-s	Total Task
1 (44)							
X	36.82	43.91	52.27	68.11	68.89	63.98	55.64
SD	25.23	31.53	29.33	29.13	24.22	24.60	7.75
2 (69)							
X	46.62	66.67	70.77	62.53	63.70	69.23	63.23
SD	26.22	29.53	26.94	26.85	23.70	27.30	8.98
Total (113)							
X	42.81	57.81	63.57	64.71	65.72	67.19	60.30
SD	26.17	32.18	29.21	27.77	23.94	26.30	9.26

Grade Effects

F (1,111)	3.52	18.98	12.54	1.14	.99	1.01	21.54
p	ns	<.01	<.01	ns	ns	ns	<.0001

Analysis of Variance

Source	SS	df	MS	F	Percent of Total SS
TOTAL	563535.79	677	832.40		
BETWEEN	57159.82	112	510.36		
Grade (G)	9288.45	1	9288.45	21.54**	1.65
Subj. w. grades	47871.37	111	431.27		
WITHIN	506375.97	565	896.24		
Structure (S)	47363.23	5	9472.65	11.94**	8.40
G x S	18701.50	5	3740.30	4.72*	3.33
S x subjects w. grades	440311.24	555	793.35		

**p <.0001.
*p <.0005.

the second graders have significantly higher reading comprehension than the first graders. Analyses of the simple main effects for grade on performance for each verb structure, however, show that the differences between the two groups are significant for only two of the verb structures, the main verb and auxiliary forms of is.

It will be recalled that the first grade readers had significantly lower sentence comprehension of is and significantly higher comprehension of are than the nonreaders. The first grade readers' comprehension of the singular and plural forms of the be verb seems to be operating to produce the unusual pattern of difference between first and second graders in reading comprehension. Although the differences are not significant, the first graders do achieve higher scores on the main verb and auxiliary are than the second graders. On the other hand, the first graders show significantly lower reading comprehension of the main verb and auxiliary is than the second graders. This might explain why the interaction between grade and structure accounted for more of the variation (3.33%) in reading comprehension of SE than the main effect of grade (1.65%).

Again, the type of verb structure accounts for more of the variation in the subjects' SE performance than either grade or the interaction between grade and structure. The type of verb structure, however, accounts for little more than 8% of the variation in reading comprehension; substantially less than the 28% attributed to verb structure in oral reading, the 28% in sentence comprehension and the 16% in sentence repetition. This suggests that other factors are operating and that the type of SE verb structure affects reading comprehension less than it does performance on the other tasks.

Summary

Oral production of SE is a function of the particular verb forms. Children in this study had the least difficulty producing the main verb and auxiliary is and the most difficulty producing the present and past tense markers. While oral production of SE is a function of the SE verb forms children are asked to produce, grade level is influential. Black children increase significantly in the ability to produce SE forms of -ed, -s, are, and auxiliary are from kindergarten through second grade. There were no significant increases in the ability to use the SE forms of the main verb is and auxiliary is; children had little difficulty producing these forms.

Comprehension of oral SE is also more a function of the particular verb structure than it is of grade level, although children increase significantly in comprehension of SE at each grade level. Children in this study had least difficulty comprehending the main verb are and the present tense -s sentences and the most difficulty comprehending past tense -ed and main

verb is sentences. Black children in this study increased significantly in the ability to comprehend the main verb and auxiliary are and auxiliary is from kindergarten through second grade.

In addition, children comprehended both is and are forms better when they were used in sentences with regular nouns which provide two cues to number than when they were used with identical singular plural nouns which provide only one cue to number. Comprehension of both types of sentences increases with grade level, with the sharpest increase occurring for double cue sentences, indicating increased awareness of the meaning conveyed by both noun and verb in SE.

The data clearly show that among kindergarten, first and second grade children, the pattern of receptive control differs from the pattern of productive control of SE verb forms.

When 34 of the 78 first graders were unable to complete the reading tasks, comparisons of receptive and productive language performance were made between the readers and nonreaders. The readers comprehended main verb are sentences significantly better than the nonreaders, while the nonreaders comprehended main verb is sentences significantly better than the readers. The readers also produced significantly more standard forms of third person singular present tense -s, main verb are and auxiliary are while nonreaders produced significantly more nonstandard forms of these structures. Overall, children in the first grade who could read demonstrated greater receptive and productive control of SE than those who could not read. The difference between the readers and nonreaders was greater for oral production than for comprehension of SE.

First and second grade children who could read demonstrated an order of receptive and productive control of the six verb forms very similar to the order for the total K, 1 and 2 sample. First grade readers were more similar to second graders in their productive control of SE than they were to first grade nonreaders. Further, the first and second grade readers were even more alike in their ability to comprehend the SE verb forms than they were in the ability to produce them.

Oral reading of SE is also more a function of the particular verb structure than it is of grade level, although grade affects performance. The order of control of the six SE verb forms in oral reading is identical to the order found in sentence repetition which suggests a relation between the two productive tasks.

There is a clear grade related increase in children's oral reading skill but the differences are due primarily to performance on the tense markers. Second graders produced the -s and -ed significantly more often than first graders in oral reading. The increase is partially a

reflection of greater decoding skills of second graders. Reading comprehension is also more a function of verb structure than it is of grade, but verb structure had much less of an effect on comprehension of written SE than it did on oral production, oral comprehension and oral reading in SE. The second graders did have significantly higher reading comprehension than first graders, but the differences are due primarily to differences on only the main verb and auxiliary is.

While children did demonstrate considerable productive control of SE in both SR and OR tasks, there was also a great deal of variability in their performance. Children showed more consistent control of some SE verb forms, e.g., main verb and auxiliary is, than others, e.g., the two tense markers, -s and -ed. Furthermore, variability in control of SE in both oral production and oral reading decreases as grade level increases; black children are more consistent in productive control of SE as they progress through the grades.

Finally, when first and second grade readers' receptive and productive language and reading performance is compared, the results show that the pattern of control of SE verb forms is not the same for all tasks. The pattern of control of SE verb forms on the SR and OR tasks is nearly identical and the pattern of control of SE verb forms on SC is similar to that on RC. The patterns for the two productive tasks differ markedly, however, from those for the two receptive tasks. Therefore, it can be concluded that young black children do not acquire receptive and productive control of SE verb forms in the same order. Patterns of receptive and productive control of SE are different and these differences are reflected in both language and reading behavior.

Problem 2

Dialect Interference in Production of SE

The research questions for Problem 2 were: To what extent does native dialect interfere structurally in black children's oral reproductions of spoken and written SE verb forms? What is the relation between nonstandard oral language production and oral reading performance?

Findings are presented for the sentence repetition task, the oral reading task, and the relation between nonstandard responses on the two tasks. These are followed by findings about linguistic factors that influence SE and NS production.

Dialect Interference in Sentence Repetition

Children's responses on the SR task were coded as critical SE responses (CSE), nonstandard responses (NS) or SE form changes (SFC).

Table 21 presents the frequencies and percentages for each type of response produced for each verb structure and for the total SR task. The data are based on the combined responses of the kindergarten, first and second grade subjects and provide a general picture of subjects' linguistic performance on the SR task.

Table 21

Types of Responses Produced on the Sentence Repetition Task

	Type of Response						
	CSE		NS		SFC		Total No. of Scorable
Verb Form	f	%	f	%	f	%	Responses
past tense -ed	638	54	507	43	37	3	1182
present tense -s	729	62	336	28	116	10	1181
main verb are	741	64	198	17	226	19	1165
auxiliary are	817	69	123	10	246	21	1186
main verb is	939	79	101	9	146	12	1186
auxiliary is	1063	90	64	5	61	5	1188
Total Task	4927	69	1329	19	832	12	7088

Note. Data are based on the combined responses of kindergarten, first and second grade subjects (N=198).

For the total SR task, 19% of all responses were NS. The percentage of NS responses varies, however, for the six verb structures: past tense -ed, 43%; third person singular present tense -s, 28%; main verb are, 17%; auxiliary are, 10%; main verb is, 9%; and auxiliary is, 5%.

The percentage of CSE and NS responses on the specific structures as well as the total task fall within ranges found by previous researchers (Henrie, 1969; Nurss and Day, 1971; DeStefano, 1972). If responses involving SFCs had been excluded from the analyses so that the total equalled NS + CSE, a procedure used in other studies, then the percentages for NS responses would be higher.

However, children do not respond exclusively with the CSE or NS forms when asked to reproduce sentences. They sometimes change the form. In this study, 12% of the responses on the total task were SE form changes (SFC) which indicates an awareness that SE is appropriate but suggests that linguistic control of specific SE structures is not complete.

An examination of the SFC responses for the present tense revealed that the most frequent change was to the past tense, e.g., "boy jumps" to "boy jumped." Conversely, the most common change for the past tense -ed was to the present tense, although this occurred in only 3% of the cases. For both the -s and -ed, the percentage of NS responses far exceeded the percentage of SE form changes.

The high percentage of SFC responses for the main verb are (19%) and the auxiliary are (21%) also showsthat the subjects had less productive control of these plural forms than of the singular verb forms. The most frequent SFC for are sentences was the production of singular forms, e.g., from "dogs are barking" to "dog is barking." Similarly, the most common change for is sentences was the production of SE are forms, although this was considerably less frequent.

In order to determine whether the extent of dialect interference was significantly different for the various verb structures and to identify grade related trends, the subjects' NS percentage scores on the sentence repetition task were subjected to a grade by structure analysis of variance. Findings are presented in Appendix F. They show that grade, verb structure and the interaction of these variables are all significant factors in NS production but verb structure is clearly the most influential, accounting for more than 28% of the variation in children's NS responses.

Subjects in this study produced significantly more NS responses for the past tense -ed than for the present tense -s, more for the present tense -s than for the main verb are, and significantly more for these three forms than for the three other forms. There were no significant differences in production of NS responses for auxiliary are and main verb and auxiliary is in sentence repetition.

The findings also reveal that second graders gave significantly fewer NS responses than both first graders and kindergarteners but first graders did not produce significantly fewer NS responses than kindergarteners. The significant grade and grade by structure interaction are due primarily to subjects' performance on the two tense forms and the main verb *are*. Differences among the grades in NS production for these three structures are significant at the .01 level.

The data in this study show a clear inverse relation between standard and nonstandard production; as black children increase in their ability to control production of SE verb forms from kindergarten through second grade, they significantly reduce the number of NS responses they produce, at least in a formal testing situation. This relation between standard and nonstandard production is clearly a function of the specific verb form.

Dialect Interference in Oral Reading

Frequencies and percentages of CSE, NS and SFC responses on the oral reading task are presented in Table 22. The data are based on the combined responses of the first and second grade readers (N=113).

Table 22

Types of Responses Produced on the Oral Reading Task

	Type of Response						
	CSE		NS		SFC		Total No. of Scorable
Verb Form	f	%	f	%	f	%	Responses
past tense *-ed*	326	48	249	37	98	15	673
present tense *-s*	395	60	180	27	82	13	657
main verb *are*	505	74	125	19	44	7	674
auxiliary *are*	543	80	106	16	27	4	676
main verb *is*	591	87	57	8	30	5	678
auxiliary *is*	597	88	45	7	36	5	678
Total Task	2957	73	762	19	319	8	4036

Note. Data are based on the combined responses of first and second grade readers (N=113).

The data show that 19% of all responses on the OR task were NS. However, the percentage of NS responses varies for the six verb structures. The greatest number of NS responses were produced for the past tense -ed (37%) and the third person singular present tense -s (27%). NS responses for main verb are were 19%, and for auxiliary are, 16%, but for main verb is they were only 8% and for auxiliary is only 7%. This pattern of NS responses on the six verb forms--from the greatest percentage for the -ed to the smallest percentage for auxiliary is--is the same as that found for the SR task (see Table 21).

As in the SR task (see Table 21), more critical SE responses than NS responses were produced for each verb form. The percentage of CSE responses in oral reading ranged from 48% for the past tense -ed to 88% for auxiliary are.

For the OR task, the percentage of SFC responses is consistently lower than the percentage of NS responses for the six verb forms. In the SR task, there were more SFC responses than NS responses for main verb and auxiliary are and main verb is. However, the types of SFC responses made by first and second graders in oral reading were the same as those made by kindergarten, first and second graders in sentence repetition.

When the subjects' NS percentage scores were subjected to an analysis of variance, the results (see Appendix G) show that there are significant differences among the six verb forms in the number of NS responses made by subjects. In oral reading significantly more NS responses were produced for the -ed than for the -s, more for the -s than for the are forms, and more for the are forms than the is forms. (For both is and are, there was no significant difference in NS production between main verb and auxiliary forms.)

Shuy (1969) pointed out that SE features which differ least markedly from BE are more likely to be read orally in NS than features with greater differences from BE. The data in this study support Shuy's statement, for the tense markers represent minimal distinctions, whereas is and are forms represent greater distinctions between SE and BE in both oral and written language. The data presented here also coincide with the findings of Goodman and Burke (1973), who found that the most common dialect-related reading miscues involved changes in inflectional endings, such as the -s and -ed, and with the findings of Ames, Rosen and Olsen (1971), who found the fewest oral reading errors for is and are and most for -s and -ed.

The results of the analysis of variance (see Appendix G) also show that the child's grade level is a significant factor in the production of NS responses in oral reading, although grade accounted for only 3.41% of the variation in NS performance while verb structure accounted for 22.41%. The second graders gave significantly fewer NS responses in oral reading than first graders; however, the significant interaction and tests of the

simple grade effects show that the grade difference is due primarily to performance on the two tense markers. First graders produced significantly more NS responses when reading the past and present tense sentences than did the second graders. They also produced more NS responses than second graders for main verb and auxiliary is and are sentences but the difference between the grades was not significant for these structures.

In summary, the results show that dialect interference in oral reading decreases significantly from first to second grade, particularly in reading tense markers. Further, it is clear that production of NS responses in oral reading is more a function of the verb forms than it is of grade level.

Relation Between NS Responses on Sentence Repetition and Oral Reading Tasks

In order to determine the relation between NS responses on the SR and OR tasks, a series of correlations was calculated on scores of the first and second grade readers. The results are presented in Table 23.

There is a low, though highly significant, correlation between NS scores on the two tasks for the total group of first and second grade readers. But the correlation between SR and OR is clearly grade related. There is a significant, moderate correlation between scores on the two tasks for first graders but a low, nonsignificant, positive correlation for second graders. Only among the first graders, then, was there a systematic relation between production of NS forms in sentence repetition and the production of NS forms in oral reading.

Correlations between NS scores on the SR and OR tasks also were calculated for each verb form. These are shown in Table 23. NS responses on the SR and OR tasks were substantially correlated for the tense markers but the correlation was low for main verb is. All three of these correlations were significant at the .05 level. The correlation for the main verb are nearly achieves significance at the .05 level but the correlations for the auxiliary is and are are not statistically significant.

Table 23

Correlations Between NS Responses on SR and OR Tasks

Total Task Correlations

Grade (N)	r	p
1 (44)	.53	.0001
2 (69)	.18	ns
Total (113)	.32	.0001

Total Group Correlations for Each Verb Form

Verb Form	r	p
third person singular present tense -s	.47	.05
past tense -ed	.41	.05
main verb is	.22	.05
main verb are	.18	ns
auxiliary is	.06	ns
auxiliary are	.09	ns

In summary, while total task correlations suggest that nonstandard oral language production is systematically related to nonstandard oral reading performance, this relation does not hold for the subjects at each grade level nor does it hold for all verb forms.

Since the correlations for the verb structures differed greatly, it was assumed that systematic differences were operating in performance on the two tasks. Therefore, NS production on the SR and OR tasks was compared for each verb form through an analysis of variance using grade and task as the independent variables. The mean NS percentage scores and the results of the analysis of variance for each verb structure are presented in Table 24.

Table 24

Comparison of Nonstandard Responses Produced By First and Second Grade Readers on the SR and OR Tasks For Each Verb Form[a]

Grade	SR $\bar{X}$	SR SD	OR $\bar{X}$	OR SD	Analysis of Variance Source	F^b	p
Third Person Singular Present Tense -s							
1	26.41	24.59	38.23	28.11	Grade(G)	11.19	.005
2	18.13	21.73	19.89	23.80	Task (T)	5.58	.05
Total	21.35	23.14	27.04	26.98	G x T	4.15	.05
Past Tense -ed							
1	45.14	28.31	46.70	28.03	Grade(G)	11.68	.001
2	32.51	22.59	30.96	26.35	Task (T)	.12	ns
Total	37.42	25.61	37.09	27.97	G x T	.31	ns
Main Verb is							
1	7.82	10.93	10.61	12.96	Grade(G)	2.23	ns
2	5.77	11.68	6.99	14.38	Task (T)	1.49	ns
Total	6.57	11.39	8.40	13.90	G x T	.26	ns
Main Verb are							
1	11.89	18.40	20.20	17.42	Grade(G)	.31	ns
2	11.78	19.60	17.38	15.46	Task (T)	9.69	.005
Total	11.82	19.06	18.48	16.23	G x T	.39	ns
Auxiliary Verb is							
1	5.30	9.98	8.66	14.98	Grade(G)	3.68	ns
2	2.87	7.47	5.29	11.19	Task (T)	3.86	.05
Total	3.81	8.57	6.60	12.84	G x T	.11	ns
Auxiliary Verb are							
1	6.48	10.34	19.48	17.16	Grade(G)	3.19	ns
2	6.35	14.95	12.57	12.21	Task (T)	25.41	.0001
Total	6.40	13.29	15.26	14.66	G x T	3.54	ns

[a] First grade, N=44; second grade, N=69.

[b] Grade, Task and G x T df=1/111.

The results in Table 24 show that grade had a significant effect on NS performance only for the third person singular present tense -s and the past tense -ed; second graders produced significantly fewer NS forms of these two structures than first graders. For the tense forms, only the results for the present tense -s showed both a significant task and a significant grade by task interaction. The interaction is due to the substantially higher percentage of NS responses made by first graders on the OR task than on the SR task. There was little difference between second graders' NS responses on the two tasks. The greater number of NS responses by first graders on the OR task was probably due to greater difficulty decoding the present tense -s marker, in addition to dialect interference.

An analysis of the types of responses made for both the present and past tense sentences (see Appendix H) shows that on both tasks most of the NS responses consisted of absence of the tense marker, indicating that interference from dialect in production of tense forms operates in similar ways in oral language and oral reading.

Task did not have a significant effect on NS responses for the main verb is, although it did have a significant effect on the main verb are and auxiliary is and are. For each of these three forms subjects in both grades gave significantly more NS responses on the OR task than on the SR task.

Initially, the results obtained here are surprising in view of the fact that previous researchers found that dialect interference in oral reading of the copula and auxiliary forms is not extensive. Since the graphic form is present in the written language, fewer NS responses would be expected in oral reading than in oral language production, where copula deletion occurs rather frequently in BE. However, an analysis of the NS responses made on the SR and OR tasks (see Appendices I and J) helps to explain the greater number of NS responses in OR found in this study.

The primary type of NS response given in OR was lack of number agreement. For the main verb and auxiliary are, 88% and 82%, respectively, of the NS responses involved the absence of the noun plural -s, e.g., "houses are" was read as "house_ are." Only 7% of the NS responses for main verb and 6% for the auxiliary showed absence of are in oral reading.

The results differed for the SR task; only 7% of the NS responses for the main verb and 23% for the auxiliary are involved lack of number agreement where the noun plural -s was absent. Instead, 51% of the NS responses for the main verb and 35% for the auxiliary are consisted of absence of are, with an additional 35% and 32% of the NS responses, respectively, involving another form of nonagreement. In the latter case, the subjects substituted is for are while retaining the plural noun, e.g., "dogs is barking."

The finding that children gave more NS responses in the oral reading of are than they did in sentence repetition is understandable, then, since criteria for CSE responses for is and are sentences included both presence of the verb and number agreement in this study. It has already been shown that dialect interferes primarily in oral reading of inflectional endings; therefore, the tendency to delete the noun plural -s with are partially explains the higher NS production for these forms in OR than in SR.

The higher percentage of NS responses for auxiliary is in OR than in SR also is explained by the differences in the types of NS responses made for this structure on the two tasks. For auxiliary is, 87% of the NS responses in oral reading were due to nonagreement. In this case, children tended to pluralize the noun and retain the is, e.g. "dogs is." On the sentence repetition task, however, 47% of the NS responses involved absence of the verb form, 31% involved nonagreement where are was substituted for is, and only 19% involved the same type of nonagreement that accounts for almost all of the NS responses in OR, i.e., responses such as "dogs is." The same pattern of NS responses was found for main verb is as described for auxiliary is, but the difference in the number of NS responses on the SR and OR tasks was not significant for this verb structure.

As the above indicates, dialect does appear to interfere differently in the two productive tasks for some verb structures. This may partially explain why there was no significant correlation between NS responses in SR and OR on the auxiliary is, and the main verb and auxiliary are. On the two tense forms where the types of nonstandard responses tended to be the same on the two tasks, there were substantial correlations between NS production and reading orally in NS (see Table 23).

Linguistic Factors Affecting Oral Production of SE Verb Forms

Previous studies have amply demonstrated that a number of linguistic factors affect oral production of SE forms. In this study also, selected factors were examined to determine their effects on SE production in the SR task. The results are presented in the following sections.

Tense Markers. In the present study, the phonetic shape of the allomorph and the phonological environment following the verb were examined for their influence on the realization of the tense markers -s and -ed. In order to compare the results with previous findings, the method of analysis was similar to that used in previous linguistic research on BE (see Fasold, 1972). Percentages were calculated for absence of the tense markers for each allomorph and for each following phonological condition. Only responses that reflected either presence or absence of the allomorph were used in these analyses; all SFC and other NS responses were excluded. Differences were tested using chi-square analyses.

The results of the analysis to determine the effect of the phonetic shape of the allomorph on the absence of the third person singular present tense -s and the past tense -ed are presented in Table 25.

Table 25

Effect of Phonetic Shape of Allomorph on Absence of Tense Markers

	Third Person Singular Present Tense -s					
	/z/		/s/		/ɨz/	
	f	%	f	%	f	%
Present	210	66	243	68	276	82
Absent	108	34	114	32	62	18

χ^2=23.94; p<.001
N=1013; df=2

	Past Tense -ed					
	/d/		/t/		/ɨd/	
	f	%	f	%	f	%
Present	184	48	184	50	270	73
Absent	198	52	184	50	101	27

χ^2=57.16; p<.001
N=1121; df=2

Note. All NS responses other than those involving absence of the tense marker were excluded from these analyses.

The data for -s show that the percentage of absence of the /z/ and /s/ allomorphs was nearly equal (/z/ = 34% absence, /s/ = 32% absence), but there was substantially less absence of the /ɨz/ (18% absence). The chi-square is significant at the p<.001 level indicating that the phonetic shape of the allomorph has a significant effect on the production of NS forms. The subjects in this study deleted the present tense marker significantly more often for /z/ and /s/ than they did for /ɨz/. These results differ from the findings reported by Berdan (1973) and Fasold (1972) who found the /ɨz/ absent more often than the /z/ and /s/ (although Fasold found the differences were not significant).

The data in Table 25 for the past tense -ed show that the percentage of absence of the /d/ and /t/ was nearly equal (/d/ = 52% absence, /t/ = 50% absence), while the percentage of absence for the /ɨd/ was only 27%. The chi-square indicates that /d/ and /t/ were absent significantly more often than the /ɨd/. The data reported here agrees with results reported by Fasold and Wolfram (1970) and Fasold (1972) and further demonstrate that the phonetic shape of the allomorph is a significant factor in production of NS forms of the past tense.

The results of the analysis to determine the effect of the phonological environment following the verb are presented for the third person singular present tense -s and the past tense -ed in Table 26.

Table 26

Effect of Following Phonological Environment on Absence of Tense Markers

	Third Person Singular Present Tense -s			
	_V		_C	
	f	%	f	%
Present	385	76	344	68
Absent	119	24	165	32

χ^2=9.26; p<.01
N=1013; df=1

	Past Tense -ed			
	_V		_C	
	f	%	f	%
Present	397	71	241	43
Absent	164	29	319	57

χ^2=87.88; p<.001
N=1121; df=1

Note. All NS responses other than those involving absence of the tense markers were excluded from these analyses.

The data for third person singular present tense -s show that the absence of the marker differed depending upon whether it occurred before a word beginning with a vowel or a consonant. When the verb was followed by a consonant, the marker was absent significantly more than before a vowel. These results agree with the findings reported by Fasold (1972) but differ from those reported by Labov (1967).

The data in Table 26 show that the absence of -ed also differed according to the following phonological environment. When the verb was followed by a word beginning with a consonant the marker was absent 57% of the time, nearly double its absence when followed by a word beginning with a vowel (29%). As the chi-square indicates, the effect of the following phonological environment on the absence of the past tense -ed was highly significant. These results agree with the findings reported by Labov (1967) and Fasold (1972).

While the following phonological environment had a significant effect on the production of both the present and past tense allomorphs, it had a more profound effect on the absence of the past tense marker as indicated by the substantially larger chi-square.

Is and Are. It has been demonstrated in previous research that the preceding phonological environment affects production of the copula (Labov, 1969). In the present study, three classes of the preceding phonological environment were studied to determine their effect on the use of the main verb is and auxiliary is combined. These included -S_ (sibilants), -K°_ (nonsibilant voiceless consonants) and -K^{V}_ (nonsibilant voiced consonants). This analysis included only the NS responses involving absence of the verb and nonagreement between noun and verb. The frequency and percentage of CSE and NS responses for each environment are presented in Table 27.

Table 27

Effect of Preceding Environment on CSE and NS Production of Main Verb and Auxiliary Is Combined

	S		K^V		K°	
	f	%	f	%	f	%
Standard	648	91	634	91	720	96
Nonstandard*	64	9	65	9	33	4
χ^2=16.11; p<.001 N=2164; df=2						
*Breakdown of Nonstandard Responses:						
Verb Absent	29	4	46	6	15	2
Nonagreement	35	5	19	3	18	2

The data show that the preceding phonological environment does affect the standard and nonstandard production of is and that NS responses were fairly evenly divided between absence of the verb and nonagreement of number. When preceding nouns ended in -K°_ there were significantly fewer NS responses than when the preceding nouns ended in -S_ or -K^V_ . The breakdown of the two types of NS responses shows is absent most often when preceded by nouns ending in -K^V_ (6%) and least often when preceded by nouns ending in -K°_ (2%). These results differ from Labov (1969) who found is absent most often following -S_. The greater absence after -K^V_ than after -S_ can be explained by the fact that three of the four -K^V_ nouns ended in r which has been shown to have a significant effect on is production. The data in Table 27 also show that the greatest percentage of NS responses involving nonagreement between noun and verb occurred for nouns ending in -S_. In the majority of these cases, children pluralized the noun while retaining the singular verb, e.g., "houses is," "deers is."

The 4% overall absence of is found in this study is rather low in comparison with previous studies (Labov, 1969). Three factors may account for this result. In all of the stimulus sentences a noun phrase preceded the verb. A higher percentage of absence would have been anticipated if a pronoun had preceded is. Secondly, the formal testing situation was designed to elicit SE forms as much as possible. Third, stimulus sentences

in this study were restricted to seven words, considerably shorter than some of the utterances observed in other studies.

The NS responses for *are*, when preceded by -S_, -K°_ and -K^{V}_ were also studied. Only responses to sentences in which the verb was preceded by identical singular/plural nouns were included in this analysis since the pluralized forms of the regular nouns do not provide comparable environments. Findings are presented in Table 28.

Table 28

Effect of Preceding Environment on CSE and NS Production of Main Verb and Auxiliary *Are* With ISP Nouns

	S		K°		K^{V}	
	f	%	f	%	f	%
Standard	220	94	264	93	231	85
Nonstandard *	15	6	20	7	40	15
χ^2=13.38; p<.01 N=790; df=2						
*Breakdown of Nonstandard Responses:						
Verb Absent	13	5	17	6	38	14
Nonagreement	2	1	3	1	2	1

Note. Responses for main verb and auxiliary *are* were combined in this analysis.

The data show that the preceding phonological environment does affect production of standard and nonstandard forms of *are* and that the absence of *are* was primarily responsible for NS responses under each of the three conditions. As the chi-square indicates, there were significantly more NS responses when the *are* was preceded by nouns ending in -K^{V}_ than when preceded by nouns ending in -S_ or -K°_. This can be explained by the fact that the -K^{V}_ noun preceding the main verb and auxiliary *are* ended in *-r*. The profound effect of the preceding *-r* on the absence of *are* has been observed in other studies (Wolfram, 1969; Fasold and Wolfram, 1970).

The effects of single and double cues to number were examined separately for is and are sentences. Sentences containing regular nouns, which provide an additional cue to number, were contrasted with sentences containing identical singular/plural nouns that provide no additional cue to number beyond the verb. The frequency and percentage of CSE and NS responses for double cue and single cue sentences are presented in Table 29. The data show that there were significantly more NS responses for both the is and are in double cue sentences.

The breakdown of the NS responses for both is and are shows that absence of the verb was about the same in double cue and single cue sentences, but that a higher percentage of NS responses in double cue sentences involved nonagreement (is = 5 % nonagreement, are = 13% nonagreement). It should be noted that under both conditions, the are was deleted more often than is, a finding which agrees with earlier studies.

The most common type of nonagreement found in this study was use of a plural noun with is, e.g., "houses is" and it occurred in response to sentences involving both the is and are. This highlights the need to consider not only presence of the verb but also number agreement in studying black children's control of is and are.

Summary

The findings for Problem 2 show that subjects produced more SE responses than NS responses both in sentence repetition and in oral reading. Critical SE responses accounted for 69% of all responses made by K, 1 and 2 subjects on the SR task, and 73% of all responses made by first and second grade subjects on the oral reading task, indicating that to a large extent young black children can productively control SE grammatical forms in structured language and reading tasks in a formal school setting.

The data also indicate, however, that dialect does interfere in oral reproductions of spoken and written SE verb forms. On the SR task and on the OR task 19% of all responses were nonstandard in form. But the findings also show that more nonstandard responses were produced for some verb structures than for others in both oral production and oral reading. Substantially more NS forms were produced for the present and past tense than for the main verb and auxiliary forms of be. There were substantially more NS forms produced for main verb and auxiliary are than for main verb and auxiliary is sentences.

The data confirm earlier findings that dialect interferes most in oral production and oral reading of SE forms involving inflectional endings, such as the tense markers studied here. It is obvious that NS responses

Table 29

Effect of Number Cues on CSE and NS Production of Is and Are

Main Verb and Auxiliary is Combined

	Double Cue Sentences		Single Cue Sentences	
	f	%	f	%
Standard	991	91	1011	94
Nonstandard*	102	9	60	6

χ^2=10.84; p<.001
N=2164; df=1

*Breakdown of Nonstandard Responses:

Verb Absent	46	4	44	4
Nonagreement	56	5	16	2

Main Verb and Auxiliary are Combined

	Double Cue Sentences		Single Cue Sentences	
	f	%	f	%
Standard	843	78	715	91
Nonstandard*	244	22	75	9

χ^2=75.09; p<.001
N=1877; df=1

*Breakdown of Nonstandard Responses:

Verb Absent	100	9	68	8
Nonagreement	144	13	7	1

Note. NS responses that involved other than present tense forms were excluded in the above analyses.

in oral production and oral reading are a function of the type of grammatical forms tested.

The findings show that NS production also is grade related; second graders produced significantly fewer NS responses than either kindergarten or first grade subjects on the SR tasks, while kindergarten and first grade subjects produced about the same number of NS responses. In oral reading, second graders produced significantly fewer NS responses than first graders. The effect of specific verb structures is again observed through the grade level comparison, with tense forms accounting for most of the differences in performance.

When the first and second grade readers' NS responses on the two productive tasks were correlated, the results show that there is a low,but significant,correlation between NS responses in oral production and oral reading,but the relation is clearly grade related. There is a substantial and significant relation between NS production on the two tasks for the first graders,indicating that subjects at this grade level who tended to give NS responses in sentence repetition also tended to produce NS responses in oral reading. For the second grade, however, there is a low and nonsignificant correlation between performance on the two tasks, indicating no systematic relation between NS oral production and NS responses in oral reading.

When subjects' NS scores for each verb structure are examined, there are significant correlations for only three of the six structures, indicating that the relation between NS responses in oral language and oral reading is not the same for all verb structures. Comparison of subjects' NS performance on specific verb structures also shows that, in general, there were more NS responses in OR than in SR. The exceptions were -ed, for which the greatest number of NS responses were produced, and is, for which the fewest number were produced. For neither structure, however, is there a significant difference between SR and OR.

There is evidence that dialect interferes differently in oral production and oral reading of specific verb forms. In both SR and OR, absence of the marker accounts for most of the NS responses for the past and present tenses. On the other hand, for main verb and auxiliary is and are, nonagreement accounts for nearly all NS responses in OR, but both nonagreement and absence of the verb account for the NS responses in SR.

The effect of selected linguistic factors on oral production of SE verb forms was studied and the findings show that the phonetic shape of the allomorph does affect presence of the tense markers -s and -ed. The /ɨz/ allomorph was absent significantly more often than the /z/ or /s/ and the /ɨd/ allomorph was absent significantly more often than /d/ and /t/. In addition, both tense markers were absent significantly more often when followed by a word beginning with a consonant than when followed by a

word beginning with a vowel.

Production of main verb and auxiliary _is_ and _are_ forms was affected by the preceding environment. Fewer NS responses for _is_ forms were produced in sentences in which the verb was preceded by a nonsibilant voiceless consonant than when preceded by a nonsibilant voiced consonant or a sibilant. More NS responses for _are_ forms were produced when the verb was preceded by a nonsibilant voiced consonant than when preceded by a sibilant or a nonsibilant voiceless consonant. In addition, subjects produced more NS responses for _is_ and _are_ sentences containing two cues to number (noun and verb) than for sentences containing only one cue to number (verb). The greater number of NS responses in double cue sentences highlights the need to consider not only presence of the verb but also number agreement in studying black children's control of _is_ and _are_.

Problem 3

Relation Between Comprehension and Oral Production of SE

The research questions for Problem 3 were: What is the relation between comprehension and oral production of SE among kindergarten, first and second grade black children? Is the relation between receptive and productive control of SE the same for all verb forms, and is it grade related? Since many subjects in first grade were nonreaders, a third question was added: Are there differences in these relations for the children who can read?

If the tasks used in this study were measuring an underlying language competence in SE which is demonstrated in performance, and if receptive and productive abilities in learning a second dialect are related, then, as others (Osser, et. al., 1968) have pointed out, two things should be observable in the data. First, there should be a high correlation between individuals' scores on the SR and SC tasks, and second, there should be considerable similarity in patterns of responses on the same items in the two tasks. To determine if these relations exist for the subjects in this study, correlation coefficients for scores on the SR and SC tasks were computed for each grade (K, 1 and 2) and for the total group, and the mean scores on the two tasks were compared using t tests. The same analyses also were computed for the first and second grade readers.

Relation Between SR and SC for K, 1 and 2 Subjects

The results of the analyses for the K, 1 and 2 subjects are presented in Table 30.

Table 30

Comparison of Performance on the Total SR and SC Tasks

Grade	SR $\bar{X}$	SC $\bar{X}$	$\bar{D}$	df	t-ratio	p	Correlation r	p
K	62.37	51.82	10.55	50	3.73	.0001	-.06	ns
1	67.13	58.33	8.80	77	4.40	.0001	.21	ns[a]
2	77.13	62.12	15.01	68	8.58	.0001	.38	.001
Total	69.39	57.97	11.42	197	9.19	.0001	.31	.0001

[a] $p = .07$.

The data show that the mean for the total SR task is significantly higher than that for the total SC task for the total group as well as for each grade level. Subjects' oral production of SE was generally higher than their comprehension of SE. These results differ from previous studies which show black children's comprehension to be higher than their production of SE (e.g., Osser, et. al., 1968).

The data in Table 30 indicate that there is a low, but significant, positive correlation between production and comprehension of SE for the total group. The correlation is clearly grade related. At the kindergarten level, there is no significant correlation between performance on the two tasks. At the first grade, however, there is a low positive correlation which is significant at the .07 level. At the second grade there is a low, but highly significant, positive correlation between the ability to produce and the ability to comprehend SE.

Examination of NS oral production of verb forms to see if they are associated with lack of comprehension of the SE verb forms gives a different view of the relation between comprehension and production. The correlation between subjects' NS percentage scores on the SR task and the percentage scores for errors on the SC task for kindergarteners is not significant ($r = -.09$); for first graders, however, there is a low, but significant, correlation ($r = .22$, $p < .05$); and for second graders the correlation increases to $r = .35$, which is significant at $p < .003$. Both approaches show that from kindergarten through second grade the correlation between receptive and productive control of SE increases.

Since previous research has shown that receptive and productive control of SE may differ for specific features, performance on the two tasks was compared for each of the six verb structures. The results are presented in Table 31. The data show that the relation between receptive and productive control of SE is not the same for the six verb forms.

For the tense markers, -s and -ed, there is no significant correlation between ability to produce the CSE tense forms and the ability to comprehend them. A comparison of the means for the present tense marker shows that for the kindergarten, first grade and the total group, comprehension of the verb form is significantly higher than production, however, there is no significant difference between production and comprehension of the present tense marker for the second graders. This indicates a grade by task interaction. As reported earlier, there were no significant differences among the grades on comprehension of this SE structure but there was a significant increase in the ability to produce the present tense marker between the first and second grades.

Table 31

Comparison of Performance on SR and SC Tasks
by Verb Structure

Verb Form	Grade	SR $\bar{X}$	SC $\bar{X}$	$\bar{D}$	t-ratio[a]	p	Correlation r	p
present	K	55.08	70.22	-15.14	2.68	.01	-.15	ns
tense	1	54.36	72.82	-18.46	4.55	.0001	.05	ns
-s	2	74.58	73.14	1.44	.38	ns	.08	ns
	Total	61.59	72.26	-10.67	4.10	.0001	.01	ns
past	K	43.51	38.53	4.98	.95	ns	-.23	ns
tense	1	51.79	39.83	11.96	3.10	.005	.08	ns
-ed	2	64.07	41.57	22.50	6.40	.0001	.18	ns
	Total	53.94	40.10	13.84	5.73	.0001	.05	ns
main	K	76.06	41.18	34.88	8.52	.0001	.00	ns
verb	1	78.86	41.88	36.98	11.75	.0001	.10	ns
is	2	81.59	44.90	36.69	12.51	.0001	.32	.01
	Total	79.09	42.75	36.34	19.00	.0001	.15	.05
main	K	53.80	64.02	-10.22	2.01	.05	.10	ns
verb	1	61.85	74.53	-12.68	3.68	.0001	.33	.005
are	2	71.13	78.97	- 7.84	1.97	ns	.07	ns
	Total	63.01	73.37	-10.36	4.43	.0001	.23	.001
auxiliary	K	86.55	45.76	40.79	10.20	.0001	-.10	ns
is	1	88.87	52.95	35.92	12.18	.0001	.22	ns
	2	92.25	62.33	29.92	10.36	.0001	.12	ns
	Total	89.45	54.37	35.08	18.81	.0001	.13	ns
auxiliary	K	58.43	51.31	7.12	1.24	ns	-.05	ns
are	1	66.18	67.09	- .91	.25	ns	.30	.005
	2	79.61	72.19	7.42	1.95	ns	.05	ns
	Total	68.86	64.80	4.06	1.65	ns	.20	.005

[a] Degrees of freedom for kindergarten=50, first grade=77, second grade=68, total group=197.

Performance for the past tense differs from that for the present tense. The first and second grade and the total group have significantly higher production than comprehension of this structure but there is no significant difference between production and comprehension for the kindergarteners. Since, as reported earlier, there were no significant differences among the grades in the ability to comprehend the SE past tense but there were significant differences from kindergarten through second grade in the ability to produce it, there is an obvious interaction between grade and task for this verb structure also.

While it is obvious that children have difficulty controlling production of both SE tense forms, the data show relatively high comprehension of the present tense and much lower comprehension of the past tense. This bears out other studies that have shown that young children generally have difficulty understanding the past tense (Hall, Turner, and Russell, 1973).

An alternate explanation may lie in the materials used for the comprehension task in this study. When the present and past tense were contrasted with each other in the pictures used to assess comprehension of each tense form, children tended to select the more salient action of the present tense picture for both present and past tense sentences, e.g., for jumps and jumped. This might explain the relatively high comprehension scores for the present tense and the much lower comprehension scores for the past tense. Under these circumstances, it would be inappropriate to assume that children's lack of comprehension of SE past tense forms is attributable primarily to dialect interference. General understanding of tense concepts must be considered in addition to the role of native dialect interference.

On the other hand, Henrie (1969) has shown that black children's use of the uninflected NS equivalent of the SE verb form, e.g., jump_, tends to convey an active meaning. It is possible, then, that many subjects did not pay attention to the subtle inflectional endings for the past and present SE verb forms and simply construed the stimulus to be the NS equivalent and chose the active picture.

Another perspective is obtained by calculating a grammatical contrast score for CSE production and comprehension by combining subjects' CSE percentage scores for the present and past tense on each task. When this was done the total group's productive CSE mean score for the two tense forms was 57.77 and the comprehension CSE mean score was 56.18.

This demonstrates there is little difference between receptive and productive control of tense distinctions when the present and past tense are considered together. This is in line with Torrey's finding (1969) that the SE features that black children produce least often--inflectional endings--were also the ones they have difficulty understanding.

Findings for is (Table 31) show no significant correlation between production and comprehension for any of the groups for auxiliary is; there is a significant correlation, however, between production and comprehension of main verb is for the total group, due primarily to the significant correlation for the second graders.

The mean scores for the main verb is and auxiliary is show that CSE production is significantly higher than comprehension for each grade and the total group. As stated earlier, subjects had very little difficulty in producing the SE forms of the main verb is and auxiliary is, hardly surprising since these forms occur in BE. On the other hand, the black child's frequent selection of the plural picture when presented with a stimulus sentence containing the singular is demonstrates his relatively low comprehension of the number marking by this feature.

A partial explanation for this behavior may lie in the similarity between sounds of BE and SE forms, particularly in sentences involving sibilants preceding the verb, e.g., house_ is very, fish is diving. Subjects may have construed the stimulus sentence to contain the noun plural without the are, a common sequence in BE, e.g., houses _ very, fishes _ diving, and selected the plural picture. Although the stimulus tape provided a juncture between the noun and verb, the similarity in sound between "The big brick house is very old" and "The big brick houses very old" may have resulted in interference in comprehension.

The results for are differ from the results for is. Here there are significant correlations between CSE production and comprehension for the total group for both main verb are and auxiliary are due primarily to the first graders' performance on the two tasks.

While there are no significant differences between comprehension and production for the total group or for each grade for the auxiliary are, there are significant differences on the main verb are for kindergarten, first grade and the total group. The difference for the second grade nearly reached significance ($p < .053$). Children's receptive control of the main verb are was higher than their productive control. But for auxiliary are production was slightly but not significantly higher than comprehension.

Comparison of data for main verb are with data for main verb is shows an inverse relation between comprehension and production. Apparently, dialect interferes with production of main verb are much more than

with main verb is. This was borne out by the analysis of NS responses in the SR task (Appendix F). The majority of NS responses to main verb are involved absence of are or substitution of is with the plural noun, e.g., houses _ very, and houses is very (see Appendix I).

The higher comprehension scores for main verb are than for main verb is reflect less dialect interference in the comprehension of are. For one thing, is functions as both a singular and plural form for many BE-speakers (Fasold and Wolfram 1970), whereas are, so often absent in BE, can be identified more easily as an SE number marker. Further, since nouns characteristically carry cues to number more than verbs and half of the stimulus sentences used to test are contain regular plural nouns, and since, as demonstrated in the examples above, even NS responses for the plural verb form generally retain the plural form of the regular nouns, it is not surprising that there is greater comprehension of the main verb are sentences.

The inverse relation between receptive and productive performance found for main verb is and main verb are is not found for the auxiliary is and auxiliary are. Although for auxiliary is, significantly higher production than comprehension is again found, the reverse is not true for the auxiliary are; there is no significant difference between production and comprehension for the auxiliary are.

It is evident, then, that interference from native dialect functions differently in the production and comprehension of the main verb and auxiliary forms of is and are. However, when the grammatical contrast scores were calculated for the main verbs and auxiliary verbs, they show that production of CSE verb forms is substantially higher than comprehension of them. The total group CSE production mean score for the main verbs taken together is 71.05 while the CSE comprehension mean score is 58.06. For the auxiliary is and auxiliary are combined, the total group CSE production mean score is 79.16 and the CSE comprehension mean score is 59.59. Black children have less difficulty producing is and are than they do comprehending the number contrasts these SE verb forms represent. These findings confirm those of Nurss and Day (1971) who also found that production of is and are in a sentence imitation task was higher than comprehension of is/are contrasts.

Relation Between SR and SC for First and Second Grade Readers

Performance on the SR and SC tasks also was compared for subjects in the first and second grade reading sample. The results indicate that the relations between comprehension and oral production in SE among children who could read are similar to those found for the total K, 1 and 2 sample. Table 32 compares comprehension and CSE production for first and second grade readers.

Table 32

Comparison of Readers' Performance on the Total SR and SC Tasks

Grade	SR $\bar{X}$	SC $\bar{X}$	$\bar{D}$	df	t-ratio	p	Correlation r	p
1	71.52	60.55	10.97	43	4.45	.0001	.19	ns
2	77.13	62.12	15.01	68	8.58	.0001	.38	.001
Total	74.95	61.50	13.45	112	9.32	.0001	.32	.001

As the total task data in Table 32 show, there is a significant but low positive correlation between comprehension and production for the total group of readers which is attributable primarily to the significant correlation found for the second graders. There is no significant correlation for the first graders, suggesting that even among the first graders who could read there is no significant relation between the ability to comprehend SE and the ability to produce SE.

The data also show that among the subjects who read at the first grade level, production of SE was higher than comprehension. Thus, the pattern of relations between readers' performance on the total SR task and the total SC task are the same as those for the total K, 1 and 2 sample.

The results of the comparison of readers' comprehension and CSE production for each verb structure are presented in Table 33.

Table 33

Comparison of First and Second Grade Readers' Performance on SR and SC Tasks by Verb Structure

Verb Form	Grade	SR $\bar{X}$	SC $\bar{X}$	$\bar{D}$	t-ratio[a]	p	Correlation r	Correlation p
present tense -s	1	63.32	75.70	-12.38	2.27	.05	-.23	ns
	2	74.58	73.14	1.44	.38	ns	.08	ns
	Total	70.19	74.14	- 3.95	1.23	ns	-.05	ns
past tense -ed	1	52.95	43.68	9.27	2.04	.05	.30	.05
	2	64.07	41.57	22.50	6.40	.0001	.18	ns
	Total	59.74	42.39	17.35	6.12	.0001	.21	.05
main verb is	1	76.91	37.50	39.41	9.04	.0001	.03	ns
	2	81.59	44.90	36.69	12.51	.0001	.32	.01
	Total	79.77	42.02	37.75	15.36	.0001	.22	.05
main verb are	1	70.57	81.73	-11.16	2.63	.01	.29	ns
	2	71.13	78.97	- 7.84	1.97	ns	.07	ns
	Total	70.91	80.04	- 9.13	3.11	.005	.14	ns
auxiliary is	1	86.34	53.02	33.32	7.52	.0001	.17	ns
	2	92.25	62.33	29.92	10.36	.0001	.12	ns
	Total	89.95	58.71	31.24	12.70	.0001	.17	ns
auxiliary are	1	78.73	70.07	8.66	2.03	.05	.14	ns
	2	79.61	72.19	7.42	1.95	ns	.05	ns
	Total	79.27	71.36	7.91	2.78	.01	.09	ns

[a]Degrees of freedom for first grade = 43, second grade = 68, total group = 112.

With few exceptions, relations between comprehension and production for the verb structures are the same as those found for the total K, 1, and 2 sample (compare Tables 31 and 33). Whereas the correlation between SR and SC performance on the past tense -ed is not significant for the total first grade sample, it is significant for the first grade readers. On the other hand, there is no significant correlation between SR and SC performance on main verb are and auxiliary are among the first grade readers whereas there is for the total first grade. For the auxiliary are, the first grade readers have a significantly higher mean on the SR than on the SC task whereas there is no significant difference in the SR and SC auxiliary are means for the total first grade. It will be recalled that performance on the two are verb forms accounted for major differences in SE language performance of first grade readers and nonreaders.

Even among the readers, who as a group showed higher comprehension and CSE production than the total sample, there is little if any relation between the ability to comprehend a specific SE verb form and the ability to produce that feature. The findings for the readers thus confirm that interference from the child's native dialect operates differently in production and comprehension of specific SE verb structures.

The readers' pattern of comprehension and production for the two tense forms is similar to those found for the total K, 1 and 2 sample. Readers as a group have substantially higher SC than SR mean scores for the present tense and substantially higher SR than SC mean scores for the past tense. Again, the difference between comprehension scores for the two tense forms is greater than the difference between the production scores for the two tense forms.

The readers' patterns are also similar to those of the total sample for the main verb and auxiliary verb is and are. There was higher CSE production than comprehension for main verb is and auxiliary is, higher comprehension than production for the main verb are, and higher production than comprehension for auxiliary are.

Grammatical contrast mean scores for first and second grade readers, the total first and second grade sample and the total K, 1 and 2 sample (see Table 34), show that although the two first and second grade groups had substantially higher means for SR than for SC on the tense forms, the mean grammatical contrast scores for the SC task are comparable for the three groups. This indicates that first and second grade black children have more difficulty comprehending contrasts represented by SE tense forms than they do producing those forms.

Table 34

SR and SC Means for Each Grammatical Contrast

Group	Task	Grammatical Contrast Means -ed/-s	is/are	aux. is/ aux. are
Total Kdg., First and Second Grade Sample	SR	57.77	71.05	79.16
	SC	56.18	58.06	59.59
Total First and Second Grade Sample	SR	60.70	73.18	81.47
	SC	56.81	59.86	62.40
First and Second Grade Readers	SR	64.97	75.34	84.61
	SC	58.27	61.03	65.04

Comparison of grammatical contrast mean scores for main verbs is/are and auxiliary verbs is/are shows that the pattern for comprehension and production of these SE verb forms is similar across all groups, the total K, 1 and 2 sample, the total first and second grade sample and the first and second grade readers. Children in this study had more difficulty comprehending the number contrast represented by the main verb and auxiliary forms of is and are than they did producing the SE features, which, in this study, included not only the verb, but noun verb agreement as well.

Summary

The findings reported above for total task performance show that there is little relation between black children's ability to comprehend SE and their ability to produce SE, although there is some evidence that by second grade there is a systematic (but not a strong) relation between the two abilities. In addition, total task data show that production of SE verb forms, as measured by sentence repetition, is generally greater than comprehension.

Comparison of the subjects' receptive and productive control on each of the six verb structures shows little systematic relation between the ability to comprehend a specific SE verb form and the ability to produce it orally. For some verb forms, SE production is higher than comprehension and for others comprehension is higher than production when each is examined separately. Comparisons of receptive and productive control of the verbs in the three grammatical contrasts, however, indicate that

1) comprehension of the grammatical contrasts represented by SE verb forms isolated from contextual redundancy is generally more difficult than production of those forms, and 2) native dialect operates differently in the production and comprehension of specific SE verb forms.

It is possible that the relation between comprehension and production might have been different if the SR and SC tasks had been administered together. As Hall, Turner and Russell (1973) point out, the two tasks must be given together to find out if the subjects' responses on the SR task influence picture choice on the SC task. Using this procedure, they found a significant moderate (r = .55) correlation between imitation and comprehension for their first grade urban black subjects but not for their fourth grade subjects. They did not find a significant correlation between either groups' ability to reproduce and to comprehend the present and past tense, two of the structures examined in the present study.

For the two tasks that were administered together in this study, oral reading and reading comprehension, significant correlations were found. These findings are discussed in the next section.

Problem 4

Relation Between Oral Reading in SE and Reading Comprehension

The research questions for Problem 4 were: What is the relation between oral reading in SE and reading comprehension among first and second grade black children? Is the relation between oral reading in SE and reading comprehension similar for all verb forms and is it grade related?

In order to determine the relations between oral reading in SE and reading comprehension, correlations were computed for subjects' scores on the OR and RC tasks and their mean CSE percentage scores on the two tasks were compared using *t* tests. Results are presented in Table 35.

Table 35

Comparison of Performance on the Total OR and RC Tasks

	OR	RC					Correlation	
Grade	$\bar{X}$	$\bar{X}$	$\bar{D}$	df	t-ratio	p	r	p
1	65.93	55.64	10.29	43	5.78	.0001	.38	.01
2	76.62	63.23	13.39	68	7.52	.0001	.36	.005
Total	72.46	60.27	12.19	112	9.43	.0001	.45	.0001

The data show that for the total group and for each grade there is a significant positive correlation between scores on the oral reading and reading comprehension tasks. Although the correlations are low they are significant, indicating that oral reproduction of written SE verb forms is systematically related to comprehension of the forms. Since the OR and RC tasks were administered together, the significant correlations provide some evidence that subjects' oral reading responses influence their picture selection. Further evidence is provided by the significant correlations that were obtained between NS responses in oral reading and failure to select the correct picture. The correlations were .41 for the total group, .36 for the second grade and .32 for the first grade.

Results of the *t* tests for total task performance show that readers' ability to produce CSE forms in oral reading was significantly better than their comprehension. This is consistent with the findings for the readers' SR and SC performance (see Table 32) which show CSE oral production in

sentence repetition to be significantly better than comprehension in response to spoken stimulus sentences.

Correlation coefficients also were calculated for subjects' scores on each of the verb forms and the means were compared using t tests. The results are presented in Table 36.

The results of the correlational analyses for the verb structures on the OR and RC tasks differ sharply from those found for the readers' SR and SC tasks (see Table 33). Whereas correlations for only two of the verb structures were significant on the SR and SC tasks, nearly all the correlations between the two reading tasks are significant. The exceptions are the nonsignificant correlations for first graders for the present tense -s, and second graders for the auxiliary are and the past tense -ed. The past tense -ed correlation for the second grade almost reached significance at the .05 level ($p = .054$).

Correlations for the six verb forms show that for the most part there is a systematic relation between reading the SE form of a specific feature orally and comprehension of the form; however, the strength of the relation varies for different structures. For example, the significant total group correlations between OR and RC range from .19 for the present tense -s to .52 for the main verb is. This suggests that, as in the SR and SC tasks, other factors operate to influence control of the various SE verb structures in reading. Undoubtedly, the factors include 1) subjects' control of the various SE features in oral form, 2) their skill in decoding written SE forms, and 3) interference from native dialect in oral reading and comprehension of the forms.

Examination of the data for the present tense -s shows different performance patterns for the subjects at the two grade levels. While there is a low positive, but significant, correlation between OR and RC for the second graders, there is a low negative, but nonsignificant, correlation between the two tasks for the first graders. The t tests also show that there is no significant difference between second graders' scores on the two tasks; however, first graders' RC scores are significantly higher than their OR scores for this structure.

Among the second graders, then, there was a systematic relation between reading the -s marker orally and comprehending the present tense sentences, although this relation was not strong. The findings also indicate that second graders had comparable difficulty with comprehension and oral reproduction of the written forms of SE present tense verbs. This pattern of receptive and productive control of the -s marker in reading is the same as that found for second graders' performance on the two language tasks (see Table 33) where there also was no significant difference between oral production of the -s marker and aural comprehension of present tense

Table 36

Comparison of Performance on OR and RC Tasks
by Verb Structure

Verb Form	Grade	OR $\bar{X}$	RC $\bar{X}$	$\bar{D}$	t-ratio[a]	p	Correlation r	p
present tense -s	1	42.52	63.98	-21.46	3.55	.001	-.14	ns
	2	71.58	69.23	2.35	.61	ns	.34	.005
	Total	60.27	67.19	- 6.92	1.99	.05	.19	.05
past tense -ed	1	36.82	36.82	0.00	0.00	ns	.42	.005
	2	55.75	46.62	9.13	2.20	.05	.23	ns[b]
	Total	48.38	42.81	5.57	1.84	ns	.34	.0001
main verb is	1	82.89	43.91	38.98	8.54	.0001	.35	.05
	2	89.83	66.67	23.16	8.11	.0001	.60	.0001
	Total	87.12	57.80	29.32	11.35	.0001	.52	.0001
main verb are	1	71.36	68.11	3.25	.76	ns	.47	.001
	2	77.03	62.54	14.49	4.33	.0001	.28	.05
	Total	74.82	64.71	10.11	3.77	.0001	.35	.0001
auxiliary is	1	85.61	52.27	33.34	7.89	.0001	.42	.005
	2	89.59	70.77	18.82	6.48	.0001	.45	.0001
	Total	88.04	63.57	24.47	9.79	.0001	.44	.0001
auxiliary are	1	75.57	68.89	6.68	1.71	ns	.42	.005
	2	84.00	63.70	20.30	6.32	.0001	.06	ns
	Total	80.72	65.72	15.00	5.88	.0001	.21	.05

[a] Degrees of freedom for first grade = 43, second grade = 68, total group = 112.

[b] p = .054.

sentences. However, there was no significant relation between second graders' SR and SC scores for this verb structure, as there was for their scores on the OR and RC tasks.

The mean data in Table 36 suggests that, unlike the second graders, first graders had significantly more difficulty producing CSE present tense forms in oral reading than they did comprehending the forms. The first graders' performance on the OR and RC tasks is consistent with observed behavior on the SR and SC tasks (see Table 33) where there also was a low negative, but nonsignificant, correlation (-.23) between first grader readers' oral production of the present tense -s in sentence repetition and their aural comprehension of this form, and where their mean SC score for the present tense -s was significantly higher than their mean SR score.

A partial explanation for the significant difference between first graders' OR and RC performance lies in the fact that subjects at this level had more difficulty decoding the present tense marker and also tended to select the present tense picture after producing the uninflected form of the verb, e.g., "pick_" for "picks." Either of two factors may be operating in the first graders' behavior: 1) the graphic form of the present tense marker may have been adequate to signal meaning even if the marker was not read orally or, more likely, 2) the uninflected verb produced orally has a present tense meaning for the child, who then selects the picture with the more salient action. The fact that first graders tended to select the present tense picture whether or not they produced the -s marker helps to explain the lack of a significant correlation between their OR and RC performance for this SE verb structure. It also suggests that the first grade readers' relatively high present tense -s scores on the RC task may be inflated and may not truly represent comprehension of the SE present tense marker as such, but reflect a picture selection pattern influenced by other factors, including the subjects' understanding of tense concepts generally and interference from native dialect.

The data in Table 36 for the past tense -ed show a different relation between OR and RC from that for the present tense -s. Among first graders there is a highly significant correlation between oral reading and reading comprehension for -ed. The correlation for the second graders almost reached significance at the .05 level ($p = .054$). This indicates that subjects, especially first graders, who tended to produce -ed when reading orally were also those who tended to comprehend the past tense.

Although there is a weak but systematic relation between oral reading in SE and comprehension of the past tense, the first graders' mean CSE percentage scores of only 36.82 for OR and 36.82 for RC show that they generally did not produce the -ed marker in oral reading and also had difficulty comprehending the form. When second grade subjects read past tense sentences, they produced the -ed marker significantly more often

(55.75 for OR) than first graders but they, too, had difficulty comprehending the form (46.62 for RC). In general, when subjects produced the uninflected form of the verb (e.g., jump_) they tended to select the present tense picture, indicating lack of comprehension.

When data for the two tense markers are compared, the OR means show that subjects frequently did not produce present and past tense markers although the -s marker was present more often than the -ed marker in oral reading, especially among the second graders. When the uninflected form was produced in oral reading, children tended to select the present tense picture for both present and past tense sentences, resulting in the relatively higher RC mean scores for the present tense and the lower RC mean scores for the past tense. This is further evidence that young black children construe the uninflected NS form of the verb to have a present tense meaning.

The data for the two tense forms also show that although the second graders were significantly better than first graders at producing the -s and -ed tense markers in oral reading, they were not significantly better than the first graders at comprehending the tense forms. This pattern for OR and RC performance was also found for SR and SC performance where second graders produced significantly more SE tense markers than first graders did but did not have significantly higher comprehension.

Although black children may increase significantly between first and second grade in their ability to decode and produce orally the present and past tense markers in speaking and in reading, apparently many continue to have difficulty comprehending the tense markers when they are isolated from contextual redundancy,as they were in the stimulus sentences used in this study.

Data for the main verb and auxiliary is in Table 36 show that the relation between oral reading in SE and comprehension is similar for the two verb forms. For both is forms, there are significant correlations between scores on the two tasks for each grade and the total group, indicating that those subjects who produced more SE forms in oral reading are also those who obtained higher scores on the RC task.

As the relatively high OR means indicate, subjects in this study had little difficulty orally reading SE forms of main verb and auxiliary is. Neither was there a significant difference between first and second graders' ability to read these SE forms orally.

Both first and second graders had significantly more difficulty comprehending is forms than producing them. The means indicate that many subjects who read the singular form of the verbs tended to select the plural picture. This parallels behavior observed on the SC task where children

who heard the singular form tended to select the plural picture and suggests that the same factors which interfere in aural comprehension also interfere in reading comprehension of this form. Second graders, however, were significantly better at comprehending the main verb and auxiliary is sentences than first graders, demonstrating a greater awareness of the cues to number represented by these SE verb forms.

The grade and total group correlation coefficients for the main verb and auxiliary are (see Table 36) show that there is also a significant relation between oral reading and reading comprehension of these forms. The one exception is the nonsignificant correlation for the second graders for the auxiliary are.

The data also show there is no significant difference between oral reading and comprehension of the are forms for the first graders, although there is a significant difference for the second graders. Second graders' oral reading scores are significantly higher than their reading comprehension scores for the main verb and auxiliary are. As reported earlier, however, there were no significant differences between the first and second graders' ability to read these forms orally and to comprehend them. The first graders do have slightly higher mean comprehension scores than the second graders; however, these differences are not significant and could be accounted for by the greater SE competence of the first grade readers when compared to the first grade nonreaders.

The pattern, then, of significantly better production than comprehension is maintained for the are forms but only for the second graders. Although the same trend is exhibited by the first graders, production of the are forms is not significantly better than comprehension. These results are probably due to the nature of the differences that existed between first grade readers and nonreaders in comprehension of the are forms (see Table 14).

Comparison of total group scores for is and are shows that readers had less difficulty producing, but more difficulty comprehending, the singular forms than the plural forms when reading. Though not as sharp, this is the same pattern found in the SR and SC tasks for these SE verb forms, which suggests that the same factors influence both oral language and reading performance in SE.

Grammatical contrast scores, calculated for subjects in the reading sample, were used to compare productive and receptive control of the three grammatical contrasts across language and reading tasks and are presented in Table 37.

Table 37

First and Second Grade Readers' Mean Grammatical Contrast Scores on the Four Tasks

	Grammatical Contrast Means		
Task	-s/-ed	is/are	aux. is/ aux.are
SR	64.97	75.34	84.64
SC	58.27	61.03	65.04
OR	54.33	80.97	84.38
RC	55.00	61.26	69.69

The data show that subjects' CSE production in both SR and OR tasks was higher than their aural comprehension (SC) and reading comprehension (RC) for each verb contrast with the exception of the -s and -ed contrast on the reading tasks. Here, there was little difference between OR and RC because the OR mean was sharply reduced by first grade readers' scores. The first graders' scores were much lower than second graders' OR scores, possibly due to a combination of dialect interference and difficulty in decoding the SE inflectional endings in the graphic forms of the verbs. These data confirm results from Problems 1, 2 and 3 that the black children in this study had more difficulty understanding the tense or number distinction represented by SE verb forms in each contrast than they did producing the SE forms.

Data in Table 37 also show that scores on all tasks are lower for the tense markers than for the main verb is/are and scores for both of these are lower than for the auxiliary is/are. This confirms earlier research findings which show that dialect interferes more in production and comprehension of SE tense features than it does in production and comprehension of SE main verb and auxiliary is and are.

Summary

The findings for total task performance show that there is a low but significant relation between black children's ability to read SE verb forms orally and their ability to comprehend them. The data for the total tasks also show that production of CSE forms in oral reading is higher than comprehension of the forms.

Comparison of subjects' oral reading and reading comprehension of the specific SE verb forms shows that there is a systematic relation between production and comprehension of the forms. In addition, there is evidence that black children's oral reading responses for specific verb structures are related to comprehension of the written SE verb forms. Also, the findings show that dialect interferes differently for specific SE verb forms in oral reading and reading comprehension, as it does in sentence repetition and sentence comprehension.

In general, first and second grade subjects had higher CSE oral reading scores than reading comprehension scores for all verb structures, except for the tense markers at the first grade level. First graders' performance on the tense markers reflected their greater difficulty in reading aloud SE verb forms involving inflectional endings.

Problem 5

Relation Between Reading Comprehension and Receptive and Productive Control of SE

The questions for Problem 5 were: What are the interrelations among aural comprehension, oral production, oral reading and reading comprehension of SE for first and second grade black children? To what extent is reading comprehension a function of receptive control of SE, productive control of SE, or receptive and productive control taken together? Correlations and regression techniques were used to answer these questions.

To determine the relations among the SE language (SR and SC) and reading measures (OR and RC) and grade, a correlation matrix for the combined group of first and second grade readers was computed and tests of significance applied. Results are presented in Table 38.

Table 38

Intercorrelations Between SE Language and Reading Measures and Grade for First and Second Grade Readers (N=113)

Variable	SR	SC	OR	RC
Grade	.18	.09	.34**	.40**
SR		.32**	.30**	.44**
SC			.20*	.42**
OR				.45**

**p<.001.
*p<.05.

The data show there is no significant correlation between grade and either of the SE language measures (SR, SC). As reported earlier, there were no significant differences between first and second grade readers' performance on the total SR and SC tasks. Grade, however, is significantly correlated with the two reading tasks; second graders performed significantly better than the first graders in both oral reading and comprehension of written SE verb forms.

The low, but significant, correlation between the two language measures (SR and SC), discussed extensively under Problem 3, shows that there is a relation between aural comprehension and oral production of SE, based on total task performance. Further, the significant

correlations between the two SE language measures and oral reading performance show there is a systematic relation between oral reading in SE and both comprehension and oral production of SE, with a slightly stronger relation between oral reading and oral production. The low correlations, however, suggest that the OR, SR and SC tasks also were measuring different skills.

The highest correlations are found between the RC task and each of the other three tasks (SR, SC, OR). The three correlations of .44, .42, and .45 were significant and indicate a substantial relation between comprehension of written SE and oral reading, oral production and aural comprehension of SE.

The specific relation between reading comprehension and receptive and productive competence in SE was explored further through regression analysis. The purpose was to measure the relative contributions of SR and SC to RC, and to determine which SE language task contributes most to the prediction of children's performance on the RC task.

Since grade was significantly related to reading performance, it was entered into the regression equation first in order to partial out and control the effects of this variable on the results. Oral reading was entered into the regression equation next since performance on the two reading tasks were interdependent and, as the findings reported earlier show, children's responses on the reading comprehension task were related to their oral reading responses. Then, using a stepwise regression procedure, the two predictor variables, SR and SC, were entered into the equation in the order of their greatest contribution to the increase in R^2. Each predictor variable was tested to see if it contributed significantly to the variance of reading comprehension. The results of this regression analysis are presented in Table 39.

Table 39

Regression Analysis for SR and SC as Predictors of RC

Step	Variable	R^2	F	p	Increment	p
1	Grade	16.13	21.35	.0001	16.13	.0001
2	OR	27.45	20.81	.0001	11.32	.0001
3	SC	38.49	22.74	.0001	11.04	.0001
4	SR	43.13	20.48	.0001	4.64	.005

Note. OR=Oral Reading; SC=Sentence Comprehension; SR=Sentence Repetition; RC=Reading Comprehension.

The results show that all of the independent variables contributed significantly to the prediction of reading comprehension. The R^2 indicates that 43% of the variance of reading comprehension can be accounted for by the independent variables. Together, grade and oral reading in SE accounted for 27.45% of the variance of reading comprehension. The results also show that the two oral language measures (SC and SR) in combination contributed significantly to the R^2, accounting for about 16% of the variance of RC over and above the proportion of variance accounted for by grade and OR.[1]

An examination of the relative contributions of SR and SC to prediction of reading comprehension shows that SC (11.04%) accounts for nearly three times as much of the RC variance as SR (4.64%). This indicates that black children's performance on the sentence comprehension task is a better predictor of their performance on the reading comprehension task than is their performance on the sentence repetition task.

The relatively greater importance of SC over SR for the prediction of RC was further substantiated by the results of a subsequent regression analysis which treated all three tasks--SR, SC, and OR--as predictor variables which were entered into the equation in a stepwise fashion after grade effects were partialled out. The results again showed that SC, accounting for 15% of variance in R^2, contributed most to the prediction of reading comprehension, followed by OR (7.36%) and SR (4.64%).

The results of the two regression analyses, then, show that both SR and SC contribute significantly to the prediction of performance on the RC task, indicating that both receptive and productive control of SE are significantly related to black children's comprehension of written SE. However, the results also show that performance on the SC task contributes substantially more to the prediction of reading comprehension than does performance on the SR task, which in turn suggests that reading comprehension is more a function of the child's receptive control of SE than it is a function of his productive control.

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[1] In order to determine whether interactions between grade and the independent variables (SR, SC, and OR), influenced performance on the RC task, the increments in the proportion of variance of RC accounted for by the interactions was tested. The proportion of variance (less than 1%) accounted for by the interactions was not significant, indicating that the regression of RC on SR, SC and OR was the same for the two grades. That is, the relation between reading comprehension and oral reading, oral production and aural comprehension of SE was the same for first and second grade readers.

The findings from the regression analyses are not surprising in light of findings reported for preceding problems. Comparison of subjects' performance on the four tasks showed that the pattern of control for the SE verb forms in reading comprehension was more similar to the one found for the sentence comprehension task than to either pattern found for the productive tasks, SR or OR. In addition, comparisons of children's patterns of receptive and productive control of specific SE forms on the language and reading tasks indicated that the same factors appeared to be operating to influence aural comprehension and reading comprehension of SE forms, while a somewhat different set of factors operated to influence oral production and oral reading.

Summary

In summary, the correlational analysis showed that all the SE tasks in this study were significantly related, indicating that the tasks were measuring an underlying skill in SE. Although performance on the four tasks was significantly related, the low correlations indicate that different skills also were being measured by each task.

Further, the correlations between the SE language tasks and the SE reading tasks show that the relations between RC and the language tasks are stronger than the relations between OR and the language tasks. In fact, correlations between RC and each of the other tasks were nearly equal, indicating that comprehension of written SE is related to both productive and receptive control of SE, as well as to the ability to read SE orally.

The results of the regression analyses showed that while performance on the SR and SC tasks both contributed to the prediction of performance on the RC task, performance on the SC task was the better predictor of reading comprehension. These findings suggest that black children's comprehension of written SE forms is more a function of their receptive control of the SE forms than it is a function of their productive control of the forms.

IV

SUMMARY AND DISCUSSION

This study focused on young, black children's receptive and productive language and reading competence in specific SE grammatical forms. Six verb forms were selected for study on the basis of previous research showing that the language of low socioeconomic status black children differs from SE in the use of verbs, primarily in the verb tense system and in the use of the copula and auxiliary forms of the verb be. The relation between receptive and productive control of the six SE verb forms was studied by examining children's performance on two oral language tasks and two reading tasks. A major objective was to determine if reading in SE, particularly reading comprehension of SE verb forms, is a function of receptive control of SE, productive control of SE, or receptive and productive control taken together.

The major findings, detailed in the preceding chapter, are summarized and discussed below with their implications.

Order of Acquisition of Receptive and Productive Control of SE Verb Forms

The findings from this study show that black children in the early school grades have considerable knowledge of the six SE verb forms selected for study. In a regular school stiuation, they demonstrated the ability both to produce and to comprehend grammatical features that mark differences between BE and SE.

Control of SE is grade related; black children increase their control of SE verb forms during the early school years. Second graders demonstrated significantly greater productive and receptive control of the specific SE verb forms than did the kindergarteners. These results confirm earlier research findings which show that black children increased their knowledge of SE as they progressed through the grades.

More germane to understanding acquisition of SE is the fact that performance in SE is a function of the particular grammatical structures children are asked to produce or comprehend; children had more difficulty producing and/or comprehending certain SE features than other features. In the present study, they demonstrated greatest proficiency in production of SE forms of the main verb and auxiliary verb is and least productive

control of the third person singular present tense -s and past tense -ed. These findings corroborate earlier research which shows that black children have greater difficulty producing SE features involving inflectional endings, e.g.,tense markers, and less difficulty producing SE features which occur frequently in BE, e.g., forms of is.

The order of receptive control of the SE verb forms differed from the order of productive control; children demonstrated greatest comprehension of main verb are and the third person singular present tense -s, and least comprehension of main verb is and the past tense -ed. Apart from the fact that both production and comprehension of the past tense -ed was low, the findings indicate that the order of acquisition of receptive control of the SE forms is not the same as the order of acquisition of productive control.

The findings also show that most black children in the first and second grades could read aloud and comprehend written forms of the specific SE verb structures. Moreover, performance in reading SE also is grade related; second graders produced significantly more SE forms in oral reading than the first graders and they comprehended the forms better.

Differences in the order of receptive and productive control of specific SE verb forms were observed once again in the reading tasks. Children demonstrated greatest proficiency in orally reading SE forms of the main verb and auxiliary is and least proficiency in orally reading the past tense -ed and the third person singular present tense -s. Conversely, children had least difficulty comprehending written forms of main verb and auxiliary are and the present tense -s,and most difficulty comprehending written forms of the past tense -ed and main verb and auxiliary is.

Thus, the pattern of control of the SE verb forms observed in oral reading was identical to the pattern of control observed in sentence repetition, proceeding from gross distinctions to finer distinctions between BE and SE, corroborating earlier research that has shown that SE features which differ markedly from BE are more likely to be read orally in SE than features which differ minimally. In both sentence repetition and oral reading, however, there was considerable variability in productive control of SE. For all verb forms,there were some children who consistently produced SE, others who sometimes produced it, and others who never produced it. But variability, too, is a function of grade and the particular verb forms. There was more variability in the use of tense markers than in the use of other SE forms, and there was considerably less variability in productive control of SE among second graders than among younger children in the study.

Although verb structure accounted for less variation in reading comprehension than it did in comprehension of oral SE, the pattern of control in the two receptive tasks was similar. Thus, the order in which black children acquire productive control of specific SE verb forms is demonstrated in both speaking and oral reading of SE. Further, the order in which they acquire receptive control of specific SE verb forms is demonstrated in comprehension of both oral and written SE. The order of acquisition of receptive control, however, differs from the order of acquisition of productive control, and this is demonstrated in both language and reading behavior.

Relation Between Oral Production and Comprehension of SE

Major issues in the study of black children's competence in SE have centered on the extent and nature of the relation between the ability to orally produce and to comprehend SE. One issue is whether receptive control of SE precedes productive control and whether this sequence applies to control of specific SE grammatical features. Another issue is whether comprehension of SE can be inferred from children's productive performance in SE.

The findings from this study indicate that performance on a productive task is not an adequate indicator of black children's comprehension of SE. This is supported by the fact that children's performance on the sentence repetition task did not correlate highly with their performance on the sentence comprehension task, however, the correlation was grade related. Therefore, the relation between production and comprehension of spoken SE appears to become more systematic as competence in SE increases, supporting the implication that as children's knowledge of SE increases, they develop greater consistency in their ability to apply that knowledge in both comprehension and oral production.

It is possible that the relation between comprehension and production of SE might have been different if the sentence repetition and the sentence comprehension tasks had been administered simultaneously. In this study, the two tasks were administered in different testing sessions and produced little evidence that young, school-age, black children who are able to produce SE structures also are those who comprehend the structures, although there was some evidence in favor of this among the oldest children in the study, viz., the second graders.

Further, total task performance provides only a rough measure of children's ability to comprehend and orally produce SE, for it does not indicate children's control of specific SE structures. For example, while total task performance indicated that productive control was higher than

receptive control of SE, this pattern did not hold for all verb structures. Comprehension of the SE third person singular present tense -s and the main verb are was higher than oral production of these forms.

Actually, dialect seems to interfere differently in oral production and in comprehension of various SE verb structures. For example, while children had relatively little difficulty producing SE features of is, a verb form used frequently in BE, they had considerably more difficulty comprehending is. The similarity in sound between the SE singular form, e.g.,"house is very" and the BE plural form, e.g.,"houses very", combined with the fact that is often functions as both a singular and plural verb form in BE, seem to contribute to the greater difficulty in comprehending than in producing SE features of is. On the other hand, children exhibited more difficulty producing SE features of are, a form used less frequently in BE, than they did in comprehending it, perhaps because are is more distinctively a feature of SE and because SE provides additional cues to number when are is used with regular nouns. As Stewart (1969) points out, misinterpretations are quite possible when an SE construction resembles in form a BE construction other than the one to which it is functionally equivalent. This would explain why children had more difficulty comprehending the is forms than the are forms.

Examination of responses to the tense forms indicated that, in addition to dialect interference, children's developmental level of understanding tense concepts affected sentence comprehension responses. Whether or not tense markers were produced, children tended to interpret both present and past tense sentences as having an active, present tense meaning. Any attempt to study black children's receptive and productive control of SE tense forms must take this developmental factor into account. As Hall, Turner and Russell (1973) point out, BE-speaking children may not be at any greater disadvantage in understanding -ed than are their SE-speaking counterparts, who also have difficulty comprehending this form. This means, then, that the relatively high comprehension scores obtained for the third person singular present tense may merely reflect the children's tendency to select the more salient action of the present tense stimulus pictures and may not actually reflect a truly higher level of comprehension of the -s as an SE tense marker.

Sets of pictures representing contrasts in tense or number were used to obtain data about children's comprehension of the SE structures involved in each set of grammatical contrasts. Thus, unlike the measures of children's productive control, the measures of their receptive control of the features in each contrast were not independent; therefore, performance on both structures in the contrast should be examined together in order to obtain a better understanding of children's competence in each structure. When this was done in the present study, the findings indicated that: 1) comprehension of the grammatical (tense or number) contrast

represented by SE verb forms that are isolated from contextual redundancy is generally more difficult than production of those forms, and 2) interference from dialect operates differently in oral production and comprehension of specific SE grammatical forms.

The findings in this study highlight the importance of examining both receptive and productive dimensions of linguistic control when black children's competence in specific SE forms is assessed. As Ervin-Tripp (1972) points out, different SE structures have different probabilities of being understood or produced, therefore, one cannot assume that, since SE features occur freely in black children's speech, all children understand all features of SE.

Relation Between Oral Reading in SE and Reading Comprehension

Dialect-based miscues in oral reading of SE have been used to infer lack of comprehension of written SE, but little empirical evidence has been marshalled to support such inferences, especially for specific SE structures. In fact, some researchers have shown that dialect renderings of SE texts do not necessarily interfere with comprehension.

The findings from this study show that, as in the language tasks, total task scores indicated that children's ability to produce SE forms when reading aloud was generally better than their ability to comprehend the forms. Unlike the findings for the language tasks, however, there was a systematic relation between SE production in oral reading and reading comprehension, not only for the total task but for the specific verb forms as well. Although the correlations were not high, they were significant, and indicate that among first and second graders there was a tendency for children who comprehended the forms to be the ones who also read the forms orally in SE. There was some evidence, then, that oral reading in SE is related to comprehension of written SE features.

While such a finding can be interpreted to mean that oral reading in SE influences comprehension of written SE, Goodman (1973) offers another interpretation. He suggests that accuracy may be the result of being a proficient reader and <u>not</u> that greater accuracy in reading SE orally leads to greater proficiency.

There were many children who read a particular verb form in SE but did not select the correct picture and, conversely, there were some children who did not read a particular form in SE but did select the correct picture. Obviously, it cannot be concluded that comprehension of written SE features is dependent upon reading the features aloud in SE, nor does it follow that a child who produces SE features in oral reading comprehends the features.

Findings for the reading tasks point to the inadequacy of oral reading performance as an indicator of black children's comprehension of written SE. The results suggest that teachers need not stress exact renderings of specific SE features in oral reading, but should be more concerned with children's comprehension of the forms, especially where they are isolated from contextual redundancy. A child's rendering of a BE equivalent of an SE form may be a better indicator of comprehension than letter-by-letter oral decoding. This requires that the teacher be sufficiently conversant with the child's dialect and the systematic differences between BE and SE to be able to judge equivalence.

Comparisons of oral reading and reading comprehension for the SE verb forms in each grammatical contrast showed some of the same behaviors evident in the two language tasks, indicating that native dialect operates differentially in receptive and productive reading performance, as it does in receptive and productive oral language performance. Findings for the reading tasks further support the conclusion that productive performance in SE does not provide an adequate measure of black children's comprehension of specific SE structures.

Interference in Productive Control of SE

Although the findings in this study suggest that native dialect interferes differently in comprehension and oral production of some SE features, it was not possible to study interference in comprehension directly. Inferences have been made, however, about differences in dialect interference in comprehension and production of each verb form, and in comprehension across all the verb forms. Further research is needed on ways in which dialect interferes specifically in comprehension of SE grammatical structures and the conditions under which interference occurs.

In this study, it was possible to study interference in oral production of SE by examining NS responses in sentence repetition and in oral reading. Although most responses in sentence repetition and oral reading were in SE, 19% of the responses on both tasks were nonstandard, indicating that native dialect does interfere in black children's oral reproductions of spoken and written SE forms. In both sentence repetition and oral reading tasks, children recoded SE structures into predictable BE equivalents identified in studies of features which differentiate BE and SE. Such recoding indicates that dialect interference in production of SE is systematic rather than random, although a few NS responses obviously were idiosyncratic.

Children do not produce critical SE structures and nonstandard structures exclusively, although this impression is given by some previous research in which responses other than these two types were disregarded. In both sentence repetition and in oral reading, children in this study changed some of the critical structures to other SE forms. While these responses might indicate the child's awareness that SE is appropriate, they also indicate that linguistic control of specific SE structures is not complete. Further research is needed on the role of such responses in the BE-speaker's acquisition of productive control of SE.

The pattern of NS responses--most for the tense markers, less for main verb and auxiliary are and least for main verb and auxiliary is--was the same on the two productive tasks. These results suggested initially that there was a direct relation between NS production in oral language and reading orally in NS, but when first and second graders' scores on the two tasks were correlated, it was found that the relation between NS responses in sentence repetition and oral reading was clearly grade related. While there was no significant correlation for the second graders, there was a substantial and significant correlation for the first graders, indicating that first grade subjects who tended to give NS responses in sentence repetition also tended to produce NS responses in oral reading. Further, when NS scores on the two productive tasks were examined for each verb structure, there were significant correlations for only three of the six structures, indicating that the relation between NS responses in oral production and oral reading is not the same for all SE verb structures. These findings indicate that performance patterns on the two tasks were not the same for all children or for all verb structures. Therefore, accurate predictions about performance on one productive task cannot be made on the basis of performance on the other productive task. One cannot assume that if a child produces NS responses for SE structures in spoken language, he will do the same in oral reading.

There was evidence that native dialect interferes differently in oral production and oral reading of specific verb forms. One interesting finding was that nonagreement accounted for nearly all the NS responses produced in oral reading for main verb and auxiliary is and are, but both nonagreement and absence of the verb accounted for the NS responses given for these forms in sentence repetition. On the other hand, the same type of response--absence of the marker--accounted for nearly all the NS responses for tense forms in both sentence repetition and oral reading. This further confirms the statement that performance on specific verb structures in one productive task cannot necessarily be used to predict specific types of structural interference that might occur in other productive tasks. The types of NS responses, however, that occur in each task are systematic and identifiable, highlighting again the need for teachers to be knowledgeable about the child's dialect and ways in which it might interfere in speaking and reading SE.

The data show that second graders gave fewer NS responses than first graders, suggesting that as children develop more control of SE and greater facility in decoding and perceiving finer distinctions in graphic forms, native dialect interference in oral reading decreases. This does not mean, however, that there necessarily is a linear relation between skill in decoding and orally reading in SE. It is possible that at certain stages of greater proficiency in reading, the amount of oral reading of SE texts in BE will again increase, signifying less dependence on sound-symbol relations for decoding and more reliance on underlying language structure to decode and comprehend written language.

Longitudinal and cross-sectional studies are necessary to determine the relation between NS oral language and oral reading in NS among individuals at various stages of reading proficiency. Shuy (1969) presents a scheme of children's dependence on some characteristics of the reading process--visual discrimination, sound-symbol relations and underlying language structure--at different stages in reading which could be used to guide such research.

Relation Between Language Competence and Reading

The major issue in the controversy about the causes of black children's difficulty in learning to read is whether structural differences between oral and written patterns of language interfere in reading comprehension.

Studies have shown that reading comprehension is higher for material written in language patterns similar to the child's oral language patterns than for material written in less frequently used oral patterns (Ruddell, 1965; Tatham, 1970). On the basis of such empirical data, many have contended that linguistic competence, specifically productive control of the grammatical features, in the language used in written material is basic to success in learning to read. The claims often are based on correlational data which do not support or support tenuously the inferences made.

One purpose of the study reported here was to determine if black children's reading comprehension is related to the ability to control specific SE verb forms in aural comprehension, oral production and oral reading of SE. The correlational findings for performance on the four tasks showed that there is a systematic, but not a strong, relation between comprehension of written SE and the ability to control specific SE verb forms in aural comprehension, oral production and oral reading. The correlations suggest that black children's underlying knowledge of specific SE verb structures affects their performance in all language and reading

tasks involving the use of those structures, but since the correlations are low, they suggest that different skills also are being measured by each task.

The correlational data from this study, therefore, could be used to support inferences about the relation between reading and competence in SE similar to those made by previous researchers. Since the inappropriateness of using correlational data to make such inferences has been noted, however, regression analysis was used to study further the relation between reading comprehension and receptive and productive control of SE in order to identify which component of linguistic competence serves as the best predictor of reading comprehension. Examination of the relative contributions of children's performance on the two SE language tasks to prediction of their performance on the reading comprehension task showed that the ability to comprehend oral SE is a much better predictor of comprehension of written SE than is the ability to produce SE orally.

The usefulness of oral reading in SE as a predictor of reading comprehension was assessed through a second regression analysis in which comprehension of oral SE, oral production of SE and oral reading in SE were each used as predictor variables. It was found that, while all three tasks added significantly to the prediction of reading comprehension, aural comprehension of SE accounted for more of the variance of reading comprehension than oral reading in SE, but oral reading in SE accounted for more of the variance than did oral production of SE.

Therefore, while it must be concluded that oral reading and oral production in SE are related to reading comprehension of SE, it can be inferred that reading comprehension of specific SE verb forms is more dependent upon the ability to comprehend those forms in oral language than on the ability to read them orally or to produce them orally.

The implications of these findings are that: 1) receptive control of specific SE grammatical structures is more important for comprehension of written SE than is productive control of these structures; and 2) if the primary concern in reading instruction is comprehension, then greater emphasis should be placed on increasing children's comprehension of SE forms than on teaching them to produce those forms in speaking. Further, attempts to improve BE-speakers' comprehension of written SE should focus directly on the skills needed to process and obtain meaning from written language and should not place unnecessary emphasis on reading orally in SE. The black child who orally reads an SE text rather fluently in BE probably has better comprehension than the child who reads accurately but methodically in SE.

Since there was evidence, however, that one cannot infer comprehension of a specific verb form from an oral reading of that form, it would

still be important to determine whether a child does understand the structures he renders in BE or SE. This is especially important if a child is reading a text which contains little contextual redundancy or a text which contains numerous grammatical structures which differ in BE and SE.

Some Further Comments

A few general comments are needed about the possible limitations of this study. One has to do with the amount of dialect speech exhibited by children in this sample. Of all responses on the SR and OR tasks, 19% were nonstandard; however, the percentages of NS responses for each verb structure ranged from 5% to 43%. Although the percentages of nonstandard responses for the specific structures as well as the total tasks fall within ranges reported previously, several researchers have found more nonstandard speech among low socioeconomic black children than was found in this study. At least three factors probably contributed to these results.

First, the school setting, the race of the examiners and the school-like tasks were intended to create a social context which would maximize the child's use of SE. Under these circumstances, one would expect to find fewer nonstandard responses than might be found in studies of less structured language performance. Secondly, all SE form changes were retained in the analysis of types of responses produced. Had only CSE and NS responses been calculated, as done in some studies, then the reported percentages of NS responses would have been higher, but the data would not have provided as complete a picture of children's linguistic control of SE features in sentence repetition and oral reading. Thirdly, four of the six structures studied were forms of the verb be, while only two of the structures, the tense forms, involved inflectional endings. These two structures elicited large percentages of NS responses. Had more structures involving fine distinctions between BE and SE (such as inflectional endings) been selected for study, the number of NS responses in sentence repetition and in oral reading would have been substantially greater. As the findings in this study show, BE (or NS) oral production is a function of the particular grammatical features children are asked to produce.

Although precise data on individuals' socioeconomic status was not obtainable, the 198 children in this study were selected from Title I schools in predominantly black communities. This, coupled with the fact that most of the children in the study were specifically identified as free lunch students or as members of the Title I target population, indicates that the subjects were representative of the populations about whom the controversy on dialect and reading has centered. Given these considerations, and the fact that there was considerable variability in children's

productive control of SE, there is little reason to believe that the relations among receptive and productive control of oral and written forms of SE would have differed if the subjects had exhibited more extensive use of BE.

Further consideration should be given to the problem of nonreaders which was faced in this study and which has confronted other researchers who have tried to examine black children's reading performance. Attempts to avoid this problem were incorporated into the procedures for this study by limiting the vocabulary used in the stimulus sentences to words on beginning reading lists, by restricting the length of the sentences, and by allowing examiners to cue on any word not containing the critical features. Regardless of these procedures, the problem remained. First graders who could not read well enough to complete the reading tasks had to be eliminated from this aspect of the study.

Comparison of readers' and nonreaders' performance on the language tasks showed that the first graders who were able to read generally had better receptive and productive control of SE verb forms, with the difference greater for oral production than for comprehension of SE. One cannot conclude, however, that children who could not read in the first grade were unable to do so because they were less competent in SE than the readers.

The most relevant factor in this study was children's patterns of receptive and productive control of oral SE, and in this regard, the readers' patterns were identical to those of the total group. Equally important is the fact that among the readers there was a range of receptive and productive control of SE, so that it was still possible to examine the relations between ability to control SE and ability to read SE.

The results obtained, then, do provide insight into the relations among aural comprehension, oral production, oral reading and reading comprehension of SE among children who have developed reading proficiency adequate for the tasks used in this study.

The findings in this study showed that productive control generally exceeded receptive control in both language and reading tasks. These findings conflict with results obtained by previous researchers and bear some discussion. Undoubtedly, the highly structured nature of the tasks, the particular features selected for study, and the length of the stimulus sentences contributed to these results. Many children had relatively little difficulty producing the SE features in the grammatical contrasts studied, but the fact that the critical SE features were isolated from contextual redundancy made them more difficult to comprehend.

In order to assess children's knowledge of a specific linguistic cue alone, it was necessary to isolate the feature from contextual redundancy. More natural SE sentences usually contain redundance and thereby provide more cues to comprehension. More natural SE sentences probably would have increased comprehension, but also would have clouded the primary issue--children's linguistic control of specific SE features. The results, therefore, cannot be generalized to spontaneous speech or to comprehension of more natural oral or written discourse which contains redundance. It is probable that comprehension of SE would be higher than production if the stimulus materials had required production and comprehension of more natural language.

Finally, some of the larger concerns of this study must be considered. A basic purpose was to test the application of methods of studying native language learning to the study of acquisition of a second dialect, specifically the acquisition of grammatical structures in a second dialect. To that end, the results show that methods used in the study of native language acquisition are applicable to second dialect acquisition.

Further, the extensive unidimensional research on black children's expressive language has been inadequate to assess the comprehensive nature of learning a second dialect. Competence in a second dialect involves not only the productive component but the receptive component as well. Consequently, in the present study multiple measures of specific feature knowledge were obtained, as recommended by Chomsky (1964), Osser, et. al. (1968) and Ervin-Tripp (1972). Questions about the relation between competence in SE and reading performance provided the impetus for this study. In order to obtain an adequate evaluation of this relation for specific SE grammatical features, a carefully selected sampling of behavior was obtained by using the same features in two oral language tasks and in two reading tasks.

Continued research needs to be done with multiple language measures to expand the present state of knowledge about the complex process of learning a language, learning a second dialect of a language, and the relation between language competence and competence in reading.

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APPENDIX

Appendix A

Stimulus Sentences

Practice Sentences

1. The little girl pulls the wagon.
2. The happy dog is in the box.
3. The milk spilled on the floor.

Third Person Singular Present Tense -s

1. The boy_ jumps over the big puddle.
2. The little girl_ picks five big apples.
3. The silly monkey_ climbs up the ladder.
4. The dog_ pulls my wagon up the hill.
5. The mother_ washes out the dirty clothes.
6. The girl_ pushes rocks down the hill.

Past Tense -ed

1. The boy jumped over the big puddle.
2. The little girl picked five big apples.
3. The silly monkey climbed up the ladder.
4. The dog pulled my wagon up the hill.
5. The boy planted all the flowers.
6. The teacher handed me a big box.

Main Verb is

1. The big brick house_ is very old.
2. The hungry little fish_ is very sad.
3. The little duck_ is near the water.
4. The sheep_ is down by the fence.
5. The car_ is between the big trucks.
6. The wild deer_ is behind the tree.

Main Verb are

1. The big brick houses are very old.
2. The hungry little fish are very sad.
3. The little ducks are near the water.
4. The sheep are down by the fence.
5. The cars are between the big trucks.
6. The wild deer are behind the tree.

(Continued on next page)

Auxiliary is	Auxiliary are
1. The house_ is burning to the ground.	1. The houses are burning to the ground.
2. The fish_ is diving to the bottom.	2. The fish are diving to the bottom.
3. The book_ is lying on the table.	3. The books are lying on the table.
4. The sheep_ is running to the barn.	4. The sheep are running to the barn.
5. The dog_ is barking at the cat.	5. The dogs are barking at the cat.
6. The deer_ is drinking all the water.	6. The deer are drinking all the water.

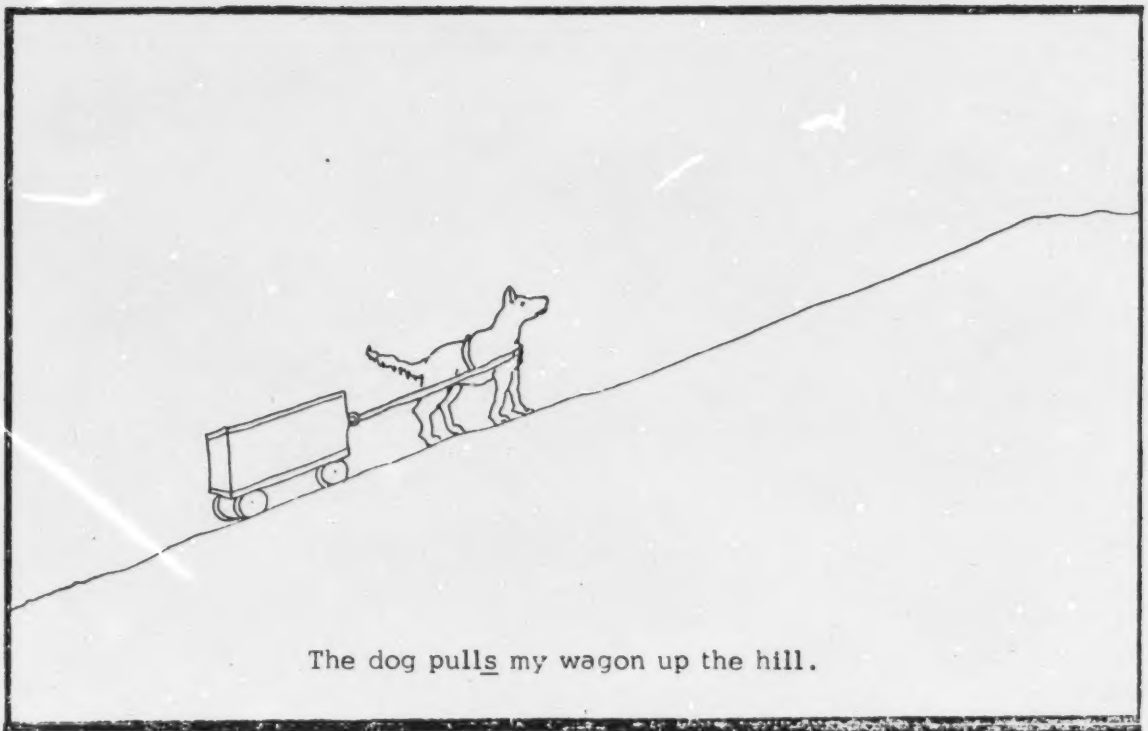
Note. Underlined features indicate the critical structures for each verb form.

Note. Scoring Criteria:

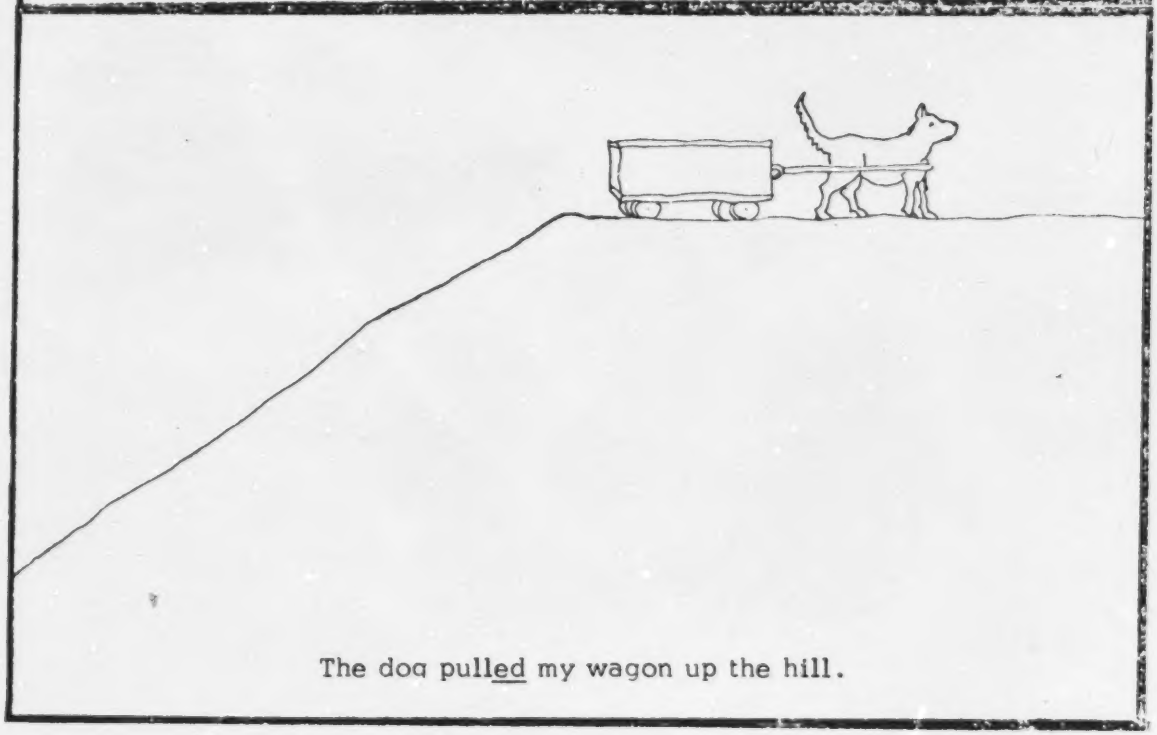
1. Contracted form of main verb and auxiliary is and are is accepted as a critical SE response.
2. Plural form of an ISP noun + are (e.g. fishes are) is accepted as a critical SE response.
3. For the third person singular present tense and the main verb and auxiliary is and are, responses must include agreement of noun and verb to be considered critical SE responses.

Appendix B

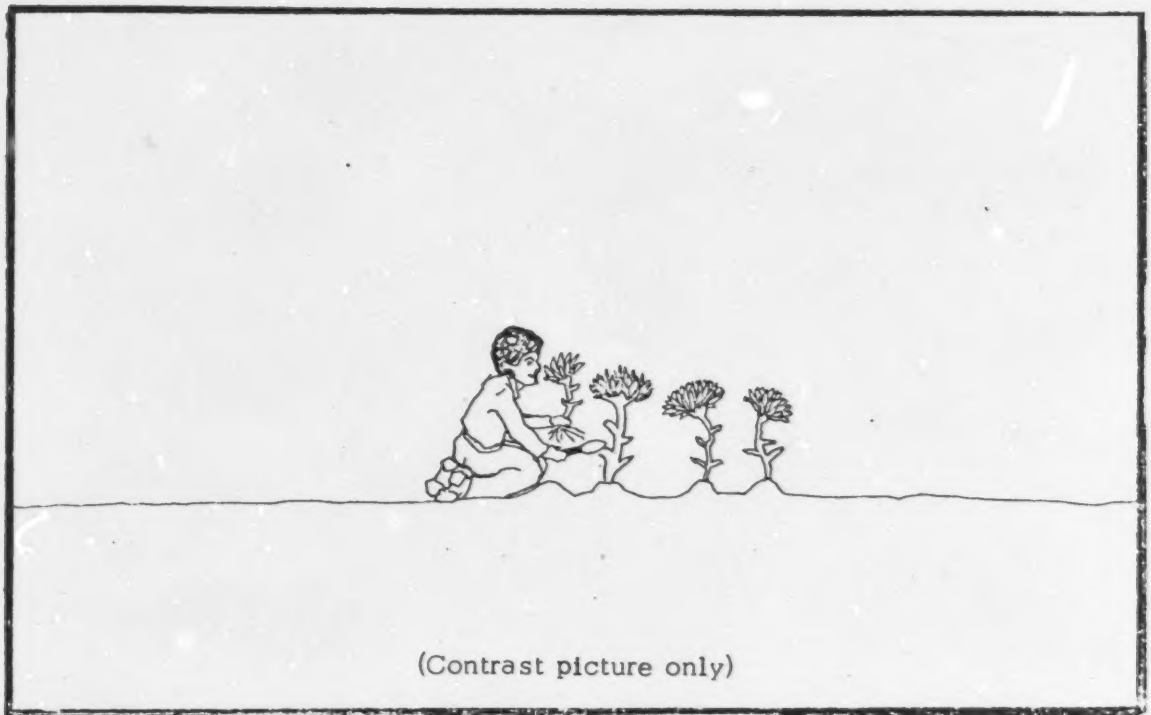
Illustrative Pictures



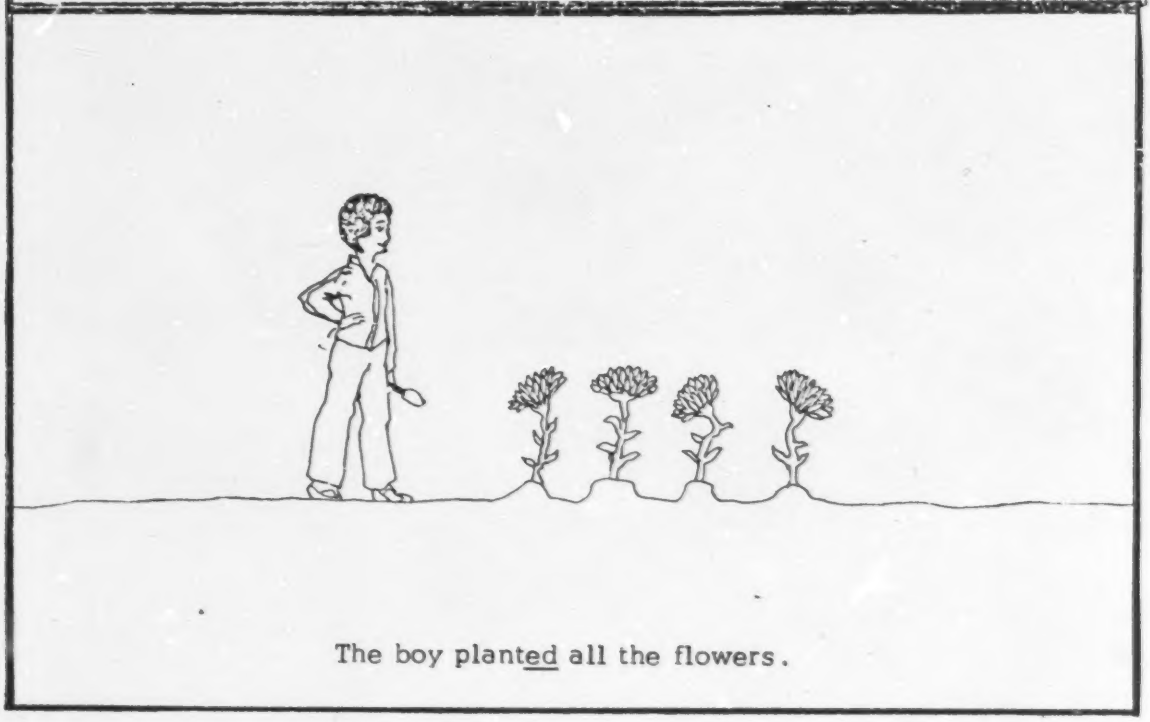
The dog pull<u>s</u> my wagon up the hill.



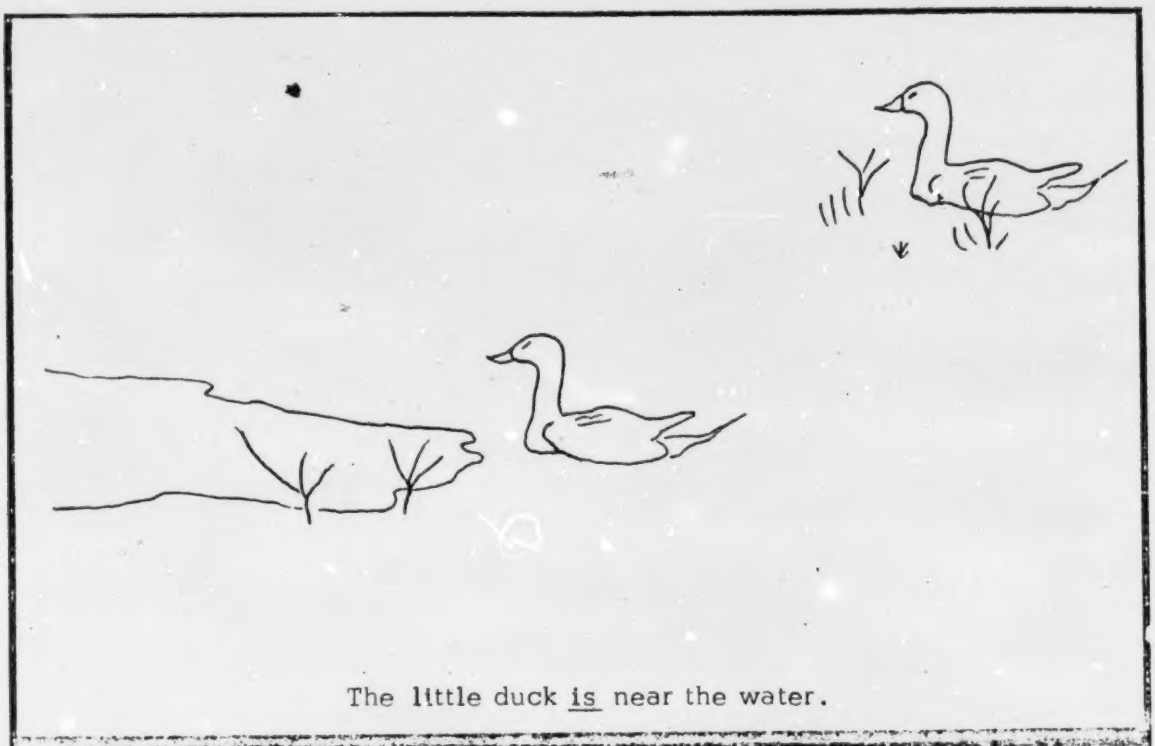
The dog pull<u>ed</u> my wagon up the hill.



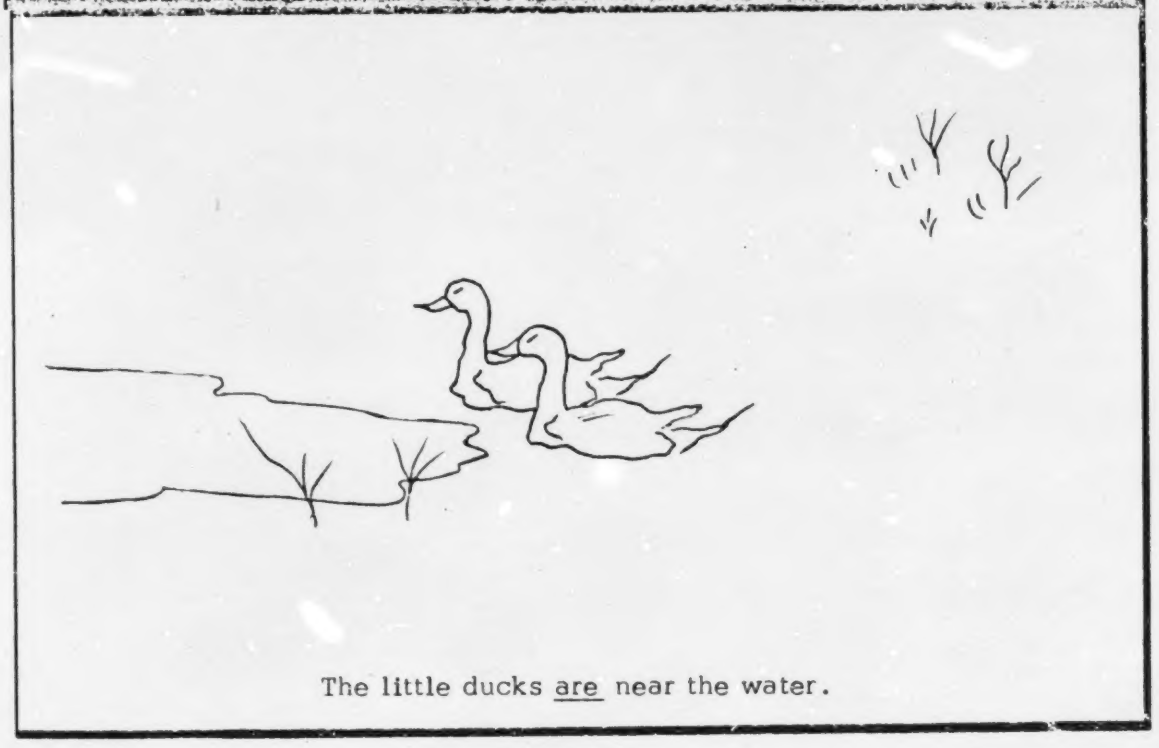
(Contrast picture only)



The boy planted all the flowers.



The little duck is near the water.



The little ducks are near the water.

The fish <u>is</u> diving to the bottom.

The fish <u>are</u> diving to the bottom.

Appendix C

Analysis of Variance for Effects of Random Sentence Order (RO) and Task Order (TO) on the Four Tasks

Source	df	M.S.	F*
Sentence Repetition Task (N=198)			
RO	1/194	877.072	2.70
TO	1/194	42.895	.13
RO X TO	1/194	228.132	.70
Sentence Comprehension Task (N=198)			
RO	1/194	31.857	.3891
TO	1/194	83.241	1.0168
RO X TO	1/194	33.977	.4150
Oral Reading Task (N=113)			
RO	1/109	248.143	1.0632
TO	1/109	44.427	.1904
RO X TO	1/109	138.263	.5924
Reading Comprehension Task (N=113)			
RO	1/109	7.174	.0842
TO	1/109	275.329	3.2296
RO X TO	1/109	40.543	.4756

*All F-ratios are not significant

Appendix D

Effects of Reading Sentence Orders (RSO)
on the Two Reading Tasks

Task		RSO1 (N=60)	RSO2 (N=53)	$\bar{D}$	t-ratio*
Oral	$\bar{X}$	25.85	25.94	.09	-0.09
Reading	SD	6.17	4.81		
Reading	$\bar{X}$	21.36	22.12	.76	-1.20
Comprehension	SD	3.45	3.18		

*t-ratios not significant at .05.

Note. Additional t-tests indicated that there were no significant differences between RSO1 and RSO2 on any of the six verb structures within each of the two reading tasks.

Appendix E

Comparison of Boys' and Girls' Performance on
Language and Reading Tasks

		Boys (N=102)	Girls (N=96)	$\bar{D}$	t-ratio*
Language Tasks					
Sentence Repetition	$\bar{X}$	24.94	24.80	.14	.15
	SD	6.54	6.62		
Sentence Comprehension	$\bar{X}$	21.16	20.56	.60	1.29
	SD	3.34	3.13		
Reading Tasks					
Oral Reading	$\bar{X}$	25.95	25.83	.12	.11
	SD	5.16	6.01		
Reading Comprehension	$\bar{X}$	21.58	21.85	-.27	.42
		3.48	3.19		

*None of the t-ratios significant at .05.

Note. Analyses were computed for each verb form within each language and reading task. There were no significant differences between boys and girls on any of the verb forms except for the past tense -ed on the two comprehension tasks. The means for the boys on SC and RC (2.60 and 2.93, respectively) were significantly higher ($p<.05$) than the means for girls on SC and RC (2.20 and 2.15, respectively).

Appendix F

Grade By Structure Analysis of NS Responses
on the Sentence Repetition Task

Means and Standard Deviations

Grade (N)	-ed	-s	are	aux. are	is	aux. is	Total Task
K (51)							
$\bar{X}$	52.76	35.33	24.10	13.73	11.75	8.84	24.35
SD	28.79	29.48	25.15	18.12	16.42	17.08	15.99
1 (78)							
X	45.40	33.23	17.94	11.79	8.87	5.35	20.36
SD	27.93	28.83	20.92	14.99	12.71	9.84	13.18
2 (69)							
X	32.51	18.13	11.78	6.35	5.77	2.87	12.97
SD	22.59	21.73	19.60	14.95	11.68	7.47	11.06
Total (198)							
X	42.80	28.51	17.38	10.39	8.53	5.38	18.83
SD	27.51	27.69	22.07	16.05	13.56	11.68	13.99

Grade Effects

F (2,195)	15.82	14.16	5.50	2.27	1.30	1.28	11.91
p	<.01	<.01	<.01	ns	ns	ns	<.0001

Analysis of Variance

Source	SS	df	MS	F	Percent of Total SS
TOTAL	713655.01	1187	601.23		
BETWEEN	232530.99	197	1180.36		
Grade (G)	25306.93	2	12653.46	11.91**	3.55
Subj. w. grades	207224.06	195	1062.69		
WITHIN	481124.02	990	485.98		
Structure (S)	203656.19	5	40731.24	147.15**	28.54
G x S	7585.40	10	758.54	2.74*	1.06
S x subjects w. grades	269882.43	975	276.80		

**p <.0001.
*p <.005.

Appendix G

Grade By Structure Analysis of NS Responses
on the Oral Reading Task

Means and Standard Deviations

Grade (N)	-ed	-s	are	aux. are	is	aux. is	Total Task
1 (44)							
$\bar{X}$	46.70	38.23	20.20	19.48	10.61	8.66	24.00
SD	28.03	28.11	17.42	17.16	12.96	14.98	10.96
2 (69)							
$\bar{X}$	30.96	19.89	17.38	12.57	6.99	5.29	16.84
SD	26.35	23.80	15.49	12.21	14.38	11.19	14.43
Total (113)							
$\bar{X}$	37.09	27.04	18.48	15.26	8.40	6.60	19.63
SD	27.97	26.98	16.23	14.66	13.90	12.84	13.59

Grade Effects

F (1,111)	18.11	24.53	.58	3.49	.96	.83	15.69
p	<.01	<.01	ns	ns	ns	ns	<.0005

Analysis of Variance

Source	SS	df	MS	F	Percent of Total SS
TOTAL	338812.44	677	500.46		
BETWEEN	93357.29	112	833.55		
Grade (G)	11562.11	1	11562.11	15.69**	3.41
Subj. w. grades	81795.18	111	736.89		
WITHIN	245455.15	565	434.43		
Structure (S)	75929.57	5	15185.91	51.63**	22.41
G x S	6283.93	5	1256.79	4.27*	1.86
S x subjects w. grades	163241.65	555	294.13		

**p <.0005.
*p <.005.

Appendix H

Types of Nonstandard Responses Produced for Tense Forms in Sentence Repetition and Oral Reading

Type of Nonstandard Response	SR (Grades K, 1, 2)		OR (Grades 1, 2)	
Third Person Singular Present Tense -s	f	%	f	%
1. Marker Absent (e.g. boy jump_ over)	284	85	147	82
2. Mixed Forms (e.g. boys jumps over)	37	11	4	2
3. NS Progressive Forms (e.g. boy _ jumping over)	10	3	25	14
4. Other NS Responses	5	1	4	2
Total NS Responses	336	100	180	100
Percent of Total Responses	28		27	
Past Tense -ed	f	%	f	%
1. Marker Absent (e.g. boy jump_ over)	483	95	211	85
2. NS Progressive Form (e.g. boy jumping over)	20	4	24	10
3. Hypercorrection (e.g. boy jumpted over)	0	0	6	2
4. Other NS Responses	4	1	8	3
Total NS Responses	507	100	249	100
Percent of Total Responses	43		37	

Appendix I

Types of Nonstandard Responses Produced for Main Verbs *is* and *are* in Sentence Repetition and Oral Reading

Type of Nonstandard Response	SR (K,1,2)		OR (1,2)	
Main Verb *is*	f	%	f	%
1. *is* absent				
RN Nouns (e.g. house _ very)	33	33	1	2
ISP Nouns (e.g. deer _ behind)	27	27	0	0
Subtotal	60	60	1	2
2. Plural Noun with *is* (Nonagreement)				
RN Nouns (e.g. houses *is* very)	18	18	31	54
ISP Nouns (e.g. deers *is* behind)	9	9	21	37
Subtotal	27	27	52	91
3. Singular Noun with *are* (Nonagreement)				
RN Nouns (e.g. house_ *are* very)	13	13	4	7
4. Other NS Responses	1	1	0	0
Total NS Responses	101	100	57	100
Percent of Total Responses	9		8	
Main Verb *are*	f	%	f	%
1. *are* absent				
RN Nouns (e.g. houses _ very)	52	26	3	2
ISP Nouns (e.g. deer _ behind)	50	25	6	5
Subtotal	102	51	9	7
2. Plural Noun with *is* (Nonagreement)				
RN Nouns (e.g. houses *is* very)	65	33	2	2
ISP Nouns (e.g. deers *is* behind)	4	2	0	0
Subtotal	69	35	2	2

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3. Noun Plural -s absent with are (Nonagreement)				
RN Nouns (e.g. house_ are very)	14	7	110	88
4. Noun Plural -s and are absent				
RN Nouns (e.g. house_ __ very)	12	6	3	2
5. Other NS Responses	1	1	1	1
Total NS Responses	198	100	125	100
Percent of Total Responses	17		19	

Appendix J

Types of Nonstandard Responses Produced for Auxiliary Verbs *is* and *are* in Sentence Repetition and Oral Reading

Type of Nonstandard Response	SR (k, 1, 2)		OR (1, 2)	
Auxiliary Verb *is*	f	%	f	%
1. *is* absent				
RN Nouns (e.g. dog __ barking)	13	20	1	2
ISP Nouns (e.g. sheep _ running)	17	27	2	4
Subtotal	30	47	3	6
2. Plural Noun with *is* (Nonagreement)				
RN Nouns (e.g. dogs *is* barking)	5	8	19	42
ISP Nouns (e.g. sheeps *is* running)	7	11	20	45
Subtotal	12	19	39	87
3. Singular Noun with *are* (Nonagreement)				
RN Nouns (e.g. dog_ *are* barking)	20	31	3	7
4. Other NS Responses	2	3	0	0
Total NS Responses	64	100	45	100
Percent of Total Responses	5		7	
Auxiliary Verb *are*	f	%	f	%
1. *are* absent				
RN Nouns (e.g. dogs _ barking)	25	20	2	2
ISP Nouns (e.g. sheep _ running)	18	15	5	4
Subtotal	43	35	7	6
2. Plural Noun with *is* (Nonagreement)				
RN Nouns (e.g. dogs *is* barking)	37	30	2	2
ISP Nouns (e.g. sheeps *is* running)	3	2	0	0
Subtotal	40	32	2	2

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3. Noun Plural -s absent with are (Nonagreement) RN Nouns (e.g. dog_ are barking)	28	23	87	82
4. Noun Plural -s and are absent RN Nouns (e.g. dog_ _ barking)	11	9	4	4
5. Other NS Responses	1	1	6	6
Total NS Responses	123	100	106	100
Percent of Total Responses	10		16	